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Social & Health Issues Report 2001

City of Hamilton
Social & Public Health Services Department
Public Health Research, Education and Development
(PHRED) Program

Affiliated with McMaster University, the University of Guelph and the Ontario Public Health Research, Education and Development (PHRED) Program.

THE New! CITY OF HAMILTON

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Your comments and suggestions are important to us. Let us know what you think about this report. For more information or additional copies of the report please contact ***Kate Feightner*** at:

City of Hamilton
Social and Public Health Services Department

Location:
1 Hughson Street North, 3rd Floor
Hamilton, Ontario
L8R 3L5

Telephone: (905) 546-3538
Fax: (905) 540-5757

Email: kfeightn@city.hamilton.on.ca
Internet: http://www.city.hamilton.on.ca/sphs/

In January 2001 the Cities of Hamilton and Stoney Creek, the Towns of Ancaster, Dundas, Flamborough and Glanbrook and the Region of Hamilton-Wentworth were amalgamated and became the new City of Hamilton. The objective of amalgamating the municipalities was to lower taxes, reduce the number of elected officials and retain or improve service delivery. This publication reflects the social and health issues that face the City in its first year of amalgamation.

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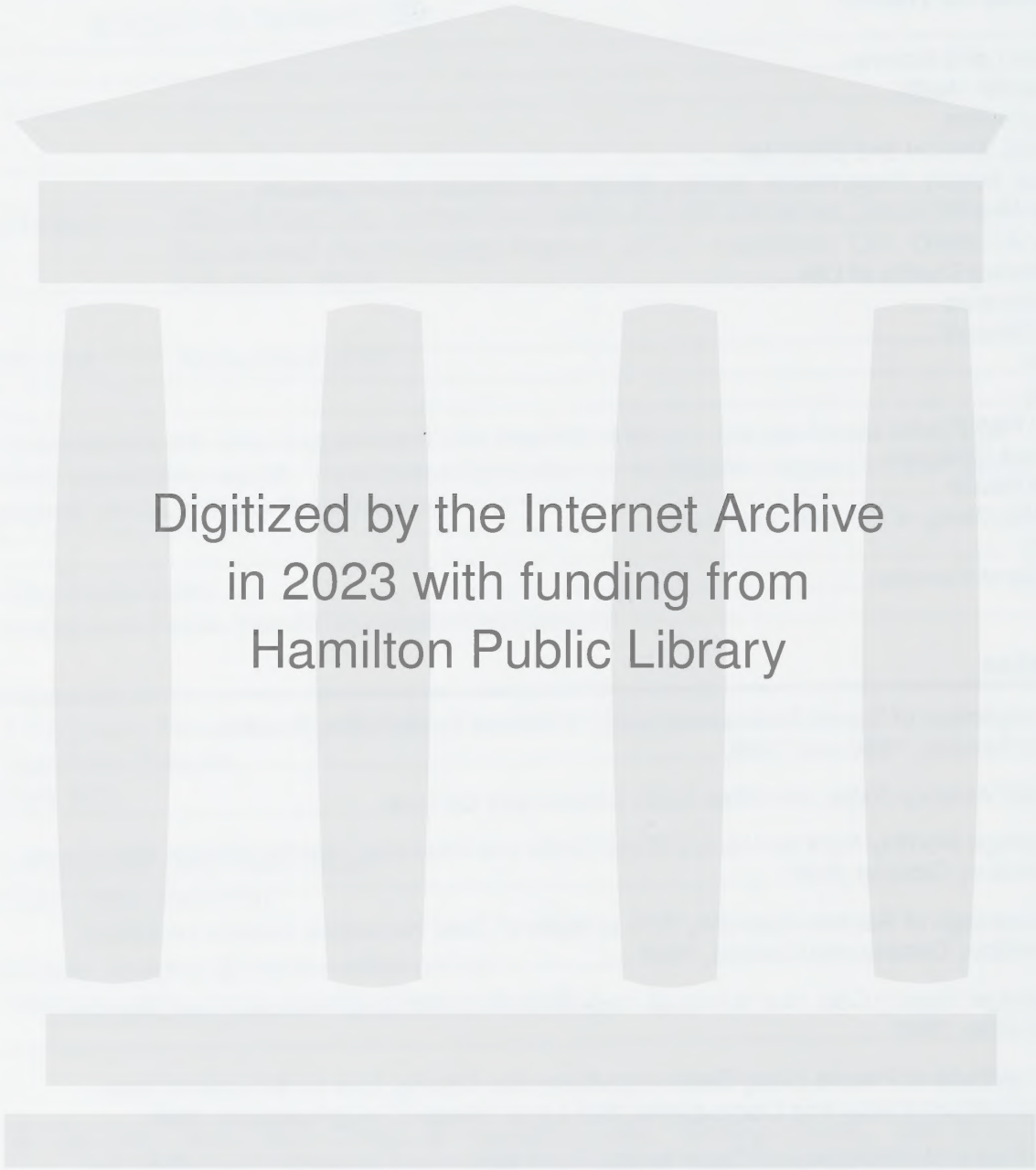
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REPORT HIGHLIGHTS

Population Characteristics

Hamilton is an aging population.

- Seniors (aged 65 years and over) represent a growing proportion of the population: from 9% in 1971 to 14% in 1996 and a projected 22% in 2028. – *page 5*

Hamilton's population is culturally diverse.

- Hamilton is culturally diverse with 25% of the population being of immigrant status in 1996. Among the immigrant population 14% are recent arrivals (arrived between 1991-96). - *page 6*

Leading Causes of Mortality and Morbidity

Overall death rate is declining.

- While overall death rates are declining in Hamilton and Canada as a whole, chronic diseases such as heart disease and cancer remain the leading causes of death and hospitalization. - *page 7*

Housing

Lack of affordable housing.

- At the end of July 2001, approximately 3,180 people were on the Community Housing Access Network waiting list. On average, there are 450 new applications per month. – *page 9*

Increasing demand on emergency shelter/hostel services.

- In March of 2001, approximately 260 people used overnight emergency shelter and hostel services per night in Hamilton. – *page 9*

Employment and Income

Hamilton is experiencing an urbanization of poverty.

- Whereas 69% of the total Hamilton population lives in the former City of Hamilton, this area was home to 87% of poor people in 1995. – *page 11*

Income disparity is on the rise.

- In Hamilton, the number of census families in both the very high and the very low income brackets are increasing. - *page 11*

Cost of healthy eating important when assessing income adequacy.

- Between 2000 and 2001, the average weekly cost of a nutritious food basket for Hamilton residents increased by 10%. For a reference family of four the increase was $9.99 per week. - *page 12*

Environmental Health

Smog is a growing concern.

- Hamilton declared seven smog episodes (comprising 12 smog days) during the summer of 2001 compared to no smog days during the summer of 2000. - *page 14*

West Nile virus detected in birds in Hamilton.

- As of the date of this report, no human cases of West Nile virus (WNV) had been reported in Canada. However, over 120 WNV positive dead birds had been identified in Ontario, four of which were from Hamilton. - *page 15*

REPORT HIGHLIGHTS

Tobacco, Alcohol and Drug Use

Canadian smoking rates are declining, except among youth.

- Smoking rates in Canada reached the lowest overall since regular monitoring of smoking began in 1965. Unfortunately, this positive picture does not apply to 15 to 19 year olds whose lowest prevalence of smoking occurred in 1990. - *page 16*

Public support is high for smoke-free workplaces and restaurants.

- Support for 100% smoke-free public places and workplaces varies. Support is higher for workplaces (75%) and restaurants (64%), than for bars (50%). - *page 16*

The burden of Fetal Alcohol Syndrome is gaining recognition.

- An estimated one to three out of every 1,000 live births have Fetal Alcohol Syndrome. – *page 16*

Physical Activity, Food Habits, Healthy Weight and Health Improvements

The majority of Hamiltonians aged 20 years and over are physically inactive.

- In Hamilton, an estimated 51% of males and 62% of females aged 20 years and over were physically inactive in 1996/97. – *page 18*

Sexual Health

Hamilton's teen pregnancy rate is higher than Ontario's.

- In 1997 the teen pregnancy rate for Hamilton was significantly higher than the Ontario rate (49 vs. 42 pregnancies per 1,000 teens.) - *page 19*

Chlamydia rates have increased in Hamilton and Canada overall.

- In Hamilton, the number of chlamydia cases rose by 38% between 1999 and 2000 (from 569 to 786 cases). - *page 20*

Health-Related Quality of Life

The majority of Hamilton adults feel positive about their health.

- According to the 2000 Hamilton-Wentworth Health Survey, 90% of Hamilton respondents aged 18 years and over stated that, in general, their health was excellent, very good or good. – *page 21*

Heart Disease

Cardiovascular disease is the leading cause of death for both males and females.

- Cardiovascular disease was the leading cause of death for both males and females in Hamilton in 1997, accounting for 1,419 deaths or 35% of all deaths in Hamilton. – *page 22*

Both males and females must be diligent at early prevention of heart disease.

- Males develop and die from heart disease earlier in life than females. However, just as many females die from heart disease as males (706 females deaths vs. 713 males deaths). – *page 22*

Cancer

Cancer is the leading cause of premature mortality.

- Cancer is the leading cause of premature mortality in Hamilton contributing to 1,114 deaths (or 28% of all deaths) in 1997. It is estimated that tobacco, diet and physical inactivity are responsible for 65% of fatal cancers. - *page 23*

REPORT HIGHLIGHTS

Lung cancer is the leading cause of cancer deaths for males and females.

- The number of female deaths due to lung cancer has risen in recent years. It now has surpassed breast cancer as the leading cause of cancer death for females. Conversely, male lung cancer deaths, while still the leading cause of cancer deaths for males, are declining. – *page 23*

Injuries

Unintentional falls are the leading cause of injury-related deaths.

- In Hamilton, there were 163 injury-related deaths in 1997, making it the third leading cause of death. Unintentional falls were the leading cause of injury-related death followed by motor vehicle collisions. – *page 25*

Mental Health

Depression is more prevalent among females compared to males.

- According to the World Health Organization, 25% of females aged 12 years and over are expected to suffer from depression during their lifetime, compared to 13% of similarly aged males. - *page 27*

Infectious Disease

Influenza immunization is increasing among long-term care facility staff.

- In 2000/2001, 92% of staff in Hamilton long-term care facilities were immunized against influenza compared to 85% in 1999/2000 and 33% in 1998/99. - *page 28*

Universal Influenza Vaccination Program was up and running in 2000/2001.

- An estimated 39% of Hamilton residents were vaccinated during the 2000/2001 flu season. - *page 28*

Reproductive Health

The premature birth rate is on the rise.

- In Hamilton, the singleton premature birth rate (for singleton births, not multiple births) rose from 5.7% in 1991 to 6.4% in 1997. – *page 29*

Hamilton has a relatively high infant mortality rate.

- The 1993-1997 infant mortality rate for Hamilton is higher than that of Ontario and Canada overall. - *page 29*

Health and Well-Being of Children and Youth

Sustained decrease in selected vaccine preventable diseases.

- No cases of diphtheria, polio, rubella or tetanus have occurred in Hamilton since 1997. – *page 31*

Numerous Hamilton elementary school children are in need of dental services.

- Of the Hamilton elementary school children screened in a 2000/2001 survey, 14% (or 705) had serious and untreated dental problems. – *page 32*

Healthy Aging

Overall life expectancy and disease-free life expectancy differ.

- In 1996, while the life expectancy for Hamilton residents was 78.2 years, their adjusted (or disability/ disease-free) life expectancy was 71.6 years. - *page 33*

INTRODUCTION

Objectives

The objectives of the Social and Health Issues Report are to:

1. Highlight important social and health issues relevant to the community.
2. Provide timely and relevant information to aid in strategic planning, program planning, policy development, and resource allocation decisions.
3. Incorporate information from relevant local community reports and studies on social and health topics.

The primary audiences for this report are City Council, Social and Public Health Services (SPHSD) staff, and other City Department staff. Additional audiences include: community partners, other community agencies, educational institutions, and interested members of the public.

Determinants of Health and the Organization of This Report

As noted by the World Health Organization, health is not an end in itself, rather, it is a means to employment, income, well-being, etc. At a societal level health is a means to economic sustainability, equity and social justice. It is now accepted that a broad range of social, economic and environmental factors influence individual and population health. For example, health and wealth are inextricably linked, where one influences the other.

The Social and Health Issues Report is organized with these relationships in mind. The first section, "Who are we?", presents a demographic profile. Next, "What influences our health?" is devoted to key health determinants. Lastly, "How healthy are we?" focuses on health status.

VISION 2020: Sustainable Community

The decision to focus on the determinants of health complements the VISION 2020 Sustainable Community Indicators initiative. This report provides decision-makers with information relevant to the sustainable community principles.

Comparison Tables

Throughout this report, Hamilton is compared to Ontario and Canada to provide the reader with a sense of how the city's social and health status compares to that of the province and country.

Information Sources

The most up-to-date data available were used in this report and data availability varied by source. Most of the data used is for 1996 up to 2001. Examples of the data sources used for this report include:

Social and Public Health Services Department - www.city.hamilton.on.ca/sphs
- Program data (for example, Ontario Works).
- 2000 Hamilton-Wentworth Health Survey

Ministry of Health and Long-Term Care (MOHLTC) - www.gov.on.ca/health
- 1996/97 Ontario Health Survey (OHS)
- Health Planning System [HelPS]
- Provincial Health Planning Database

Statistics Canada
www.statcan.ca
- Census 1991 and 1996
- 1995 Canadian Council on Social Development Urban Poverty Database

VISION 2020
www.vision2020.hamilton-went.on.ca
- Sustainable Community Indicators initiative

Education Quality and Accountability Office
www.eqao.com
- Ontario Provincial Report on Achievement: Assessment Results: Grade 3 Reading, Writing and Mathematics, 1999/2000

Please note that while some figures from Statistics Canada's Census were obtained from sampling 100% of the population, other figures were obtained from sampling only 20% of the population. For example, population demographics such as population by age and sex are derived from 100% samples, whereas other figures such as education and income levels are based on the 20% sampling method.

Where data is based upon estimates, the figures have been rounded to reflect their precision levels.

We thank the many agencies, organizations and projects that have contributed valuable data and information to this report including:
- Central West Health Planning Information Network
- *"Keeping Score"* on *Kids* in Hamilton-Wentworth, Canadian Centre for Studies of Children at Risk
- Hamilton District Health Council
- Social Planning and Research Council of Hamilton-Wentworth

Report data and information sources are available through the SPHSD.

Reference to the Old and New Cities of Hamilton

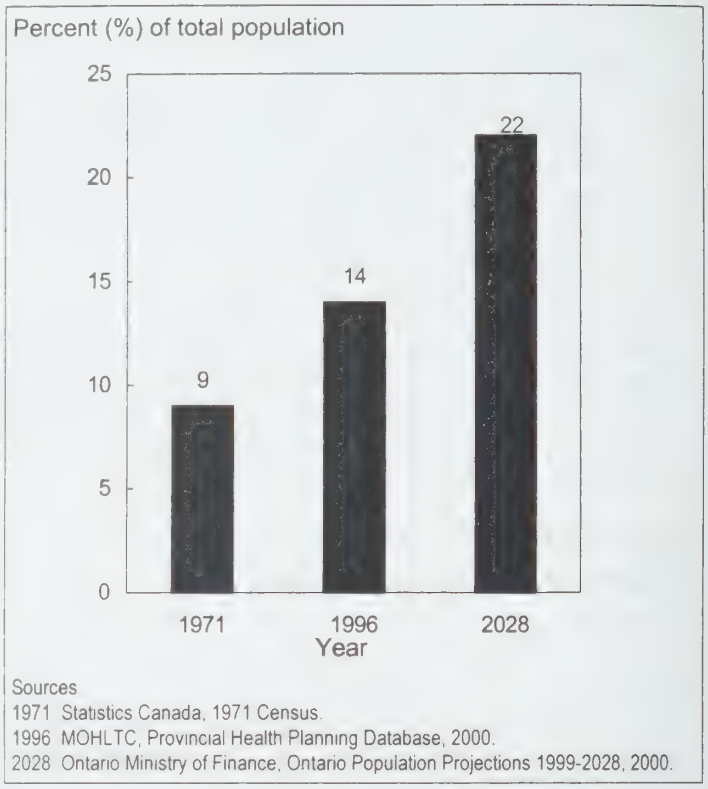
Throughout the report the new City of Hamilton is referred to simply as "Hamilton". The old City of Hamilton is referred to as "the former City of Hamilton".

Population Structure

The Canadian population has been aging over the last century due to two factors: life expectancy has increased and the average number of children born per family has decreased. In Hamilton, older adults (aged 65 years and over) represent a growing proportion of the population: from 9% in 1971 to 14% in 1996 and a projected 22% in 2028 (Figure 1). In comparison, children aged 14 years and younger represent a shrinking proportion of the population: from 27% in 1971 to 20% in 1996 and a projected 15% in 2028.

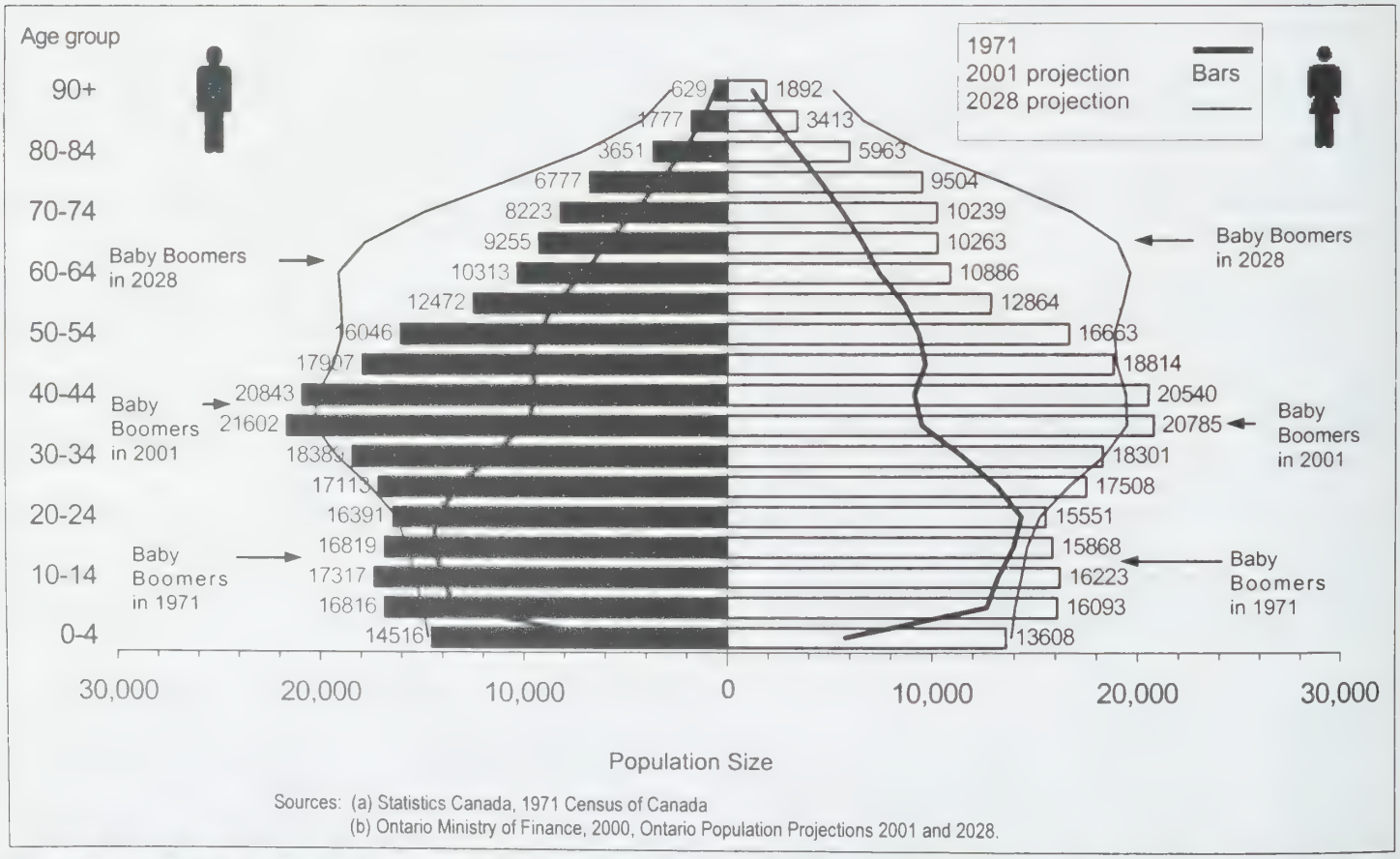
The 1971 population pyramid and the projected population pyramids for Hamilton in 2001 and 2028 are presented in Figure 2. This figure shows how the Hamilton population is aging in two distinct ways. Firstly, the 'baby boom' bulge is moving into the older age groups. (Most of this bulge is estimated to reach the 65 years and over age group by 2028.) Secondly, due to increased life expectancy the proportion of those 65 years and older (both pre-boomers and boomers) who live into their 80's or 90's is expected to increase. It should be noted that the difference in population counts between 1971 and 2001 is due to a smaller baby boom which occurred in the 1980's and immigration.

Figure 1. Percentage of People Aged 65 Years and Over in Hamilton, 1971, 1996, and 2028



Sources
1971 Statistics Canada, 1971 Census.
1996 MOHLTC, Provincial Health Planning Database, 2000.
2028 Ontario Ministry of Finance, Ontario Population Projections 1999-2028, 2000.

Figure 2. Age and Sex Population Pyramid, Hamilton, 1971, 2001 and 2028



Sources: (a) Statistics Canada, 1971 Census of Canada
(b) Ontario Ministry of Finance, 2000, Ontario Population Projections 2001 and 2028.

POPULATION CHARACTERISTICS

Land Area in Square Kilometres:		**1,113**
Population by Municipality:		
Hamilton-Wentworth 1991	451,665	
Hamilton-Wentworth 1996	**467,799**	**100%**
Hamilton	322,352	69
Stoney Creek	54,318	12
Flamborough	34,037	7
Ancaster	23,403	5
Dundas	23,125	5
Glanbrook	10,564	2
Hamilton (New City) 2028^	580,900	—
Percent (%) change 1991-1996	+3.6	—
Percent (%) change 1996-2028^	+17.6	—

^ Based on Ontario Ministry of Finance population projections

Population by Marital Status (15 years and over):	**374,305**	**100%**
Never married	107,755	29
Legally married	200,550	54
Separated but still legally married	11,705	3
Divorced	26,835	7
Widowed	27,460	7

Population of Never-Married Sons and/or Daughters Living at Home:	**152,925**	**100%**
Under 6 years of age	36,350	24
6 - 14 years of age	55,575	36
15 - 17 years of age	16,395	11
18 - 24 years of age	29,165	19
25 years of age and older	15,435	10

Total Number of Families:	**127,960**	**100%**
Total husband-wife families	108,235	85
Husband-wife families with children living at home	(63,240)	(49)
Husband-wife families with no children living at home	(44,995)	(35)
Total lone-parent families	19,725	15
Female lone parent families	(16,755)	(13)
Male lone parent families	(2,965)	(2)

Total Number of Families with Children :	**82,970**	**100%**
With 1 child at home	33,700	41
With 2 children at home	33,680	41
With 3 or more children at home	15,590	19

Households by Total Household Income:	**178,420**	**100%**
Under $10,000	12,735	7
$10,000 - $19,999	29,990	17
$20,000 - $29,999	23,340	13
$30,000 - $39,999	20,435	11
$40,000 - $49,999	18,615	10
$50,000 - $59,999	17,885	10
$60,000 - $69,999	14,270	8
$70,000 and over	41,140	23
Average household income	$ 49,231	—
Median household income	$ 41,248	—

Population 15 Years and Older by Highest Level of Schooling:	**369,110**	**100%**
Less than grade 9	42,625	12
Grades 9 to 13	145,190	39
Without secondary school graduation certificate	(92,290)	(25)
With secondary school graduation certificate	(52,900)	(14)
Trades certificate or diploma	14,655	4
Other non-university training	94,340	26
Without certificate/diploma	(25,460)	(7)
With certificate/diploma	(68,885)	(19)
University	72,295	20
Without degree	(29,520)	(8)
Without certificate/diploma	(15,120)	(4)
With certificate/diploma	(14,400)	(4)
Bachelor's degree or higher	(42,770)	(12)

Total Population 15 - 24 Years Attending School:	**59,950**	**100%**
Full-time	36,350	61
Part-time	3,640	6
Not attending school	19,965	33

Population by Literacy Level[+]:		
Great difficulty reading	—	27%
Read but not well	—	33%
Basic skill level	—	30%
High level of literacy	—	10%

[+] *Statistics Canada, International Adult Literacy Survey, 1994*

- Cultural Diversity -

Immigrant population (foreign born)	113,965	25[†]
Visible minority population	41,440	9[†]
Aboriginal population	4,825	1[†]

[†] *Proportion of the total Hamilton population.*

Total Visible Minority Population:	**41,440**	**100%**
Black	8,655	21
South Asian	8,450	20
Chinese	5,890	14
Southeast Asian	4,240	10
Arab/West Asian	3,960	10
Latin American	3,360	8
Filipino	3,070	7
Japanese	1,080	3
Korean	900	2
Visible minority *	955	2
Multiple visible minority **	895	2

** Not included elsewhere. Includes Pacific Islanders and other visible minority groups.*

*** Includes respondents who reported more than one visible minority group.*

Total Immigrant Population by Period of Immigration:	**113,965**	**100%**
Before 1961	36,585	32
1961 - 1970	24,350	21
1971 - 1980	18,640	16
1981 - 1990	18,975	17
1991 - 1996	15,420	14

Population by Mother Tongue:	**456,055**	**100%**
Official language	355,725	78
English	(349,460)	(98)
French	(6,265)	(2)
Non-official language	100,330	22

Total Non-official Language as Mother Tongue:	**100,330**	**100%**
Italian	21,505	21
Polish	9,135	9
Portuguese	7,360	7
German	6,530	7
Croatian	5,575	6
Chinese	4,870	5
Spanish	4,005	4
Dutch	3,915	4
Serbian	3,625	4
Hungarian	3,1753	
Ukrainian	3,110	3
Arabic	2,575	3
Punjabi	2,505	3
Greek	2,280	2
Vietnamese	2,175	2
Tagalog	1,170	2
Romanian	1,115	1
All others‡	15,705	16

‡ *There are 66 other mother tongue languages in Hamilton*

Note: The above data on cultural diversity are based on 1996 Statistics Canada Census numbers and do not include recent (since 1996) immigrants to Hamilton such as Hungarians, Kosovars, Roma, Albanians, Afghans, etc.

Source: 1996 Census of Canada, Statistics Canada, 1998 (except where indicated otherwise) Note The percentages may not sum to 100 due to rounding

POPULATION CHARACTERISTICS

The following table presents basic sociodemographic indicators for Hamilton, Ontario and Canada. Its purpose is to provide the reader with a sense of how Hamilton compares to the province and the nation on characteristics that are known to influence the health and well-being of populations It is important to keep these comparisons in mind when interpreting the health status and social well-being of Hamilton, especially in relation to that of Ontario and Canada.

Table 1. Comparison of Select Sociodemographic Variables for Hamilton, Ontario and Canada, 1996 and 1999

	Hamilton	Ontario	Canada
Demographics (1996)			
Total Population	467,799	10,753,573	28,846,761
% Aged 65 years and over	13.3	11.6	11.3
% Immigrant (overall)	24.6	25.6	17.4
% Recent Immigrant (1991-1996)	13.5	20.7	20.9
Number of Census Families	127,960	2,932,725	7,837,865
% of Lone Parent Families	15.4	14.4	14.5
Education (1996)			
% with Less than Grade 9 Education	11.5	10.0	12.1
% with Post Secondary Education	49.1	52.4	50.9
Income (1996)			
% of Total Population in Low Income*	21.9	17.7	19.7
% of Population Aged 65 Years and Over in Low Income*	25.1	16.8	19.3
Median Income (1999)**			
Husband Wife Families	$59,700	$59,600	$54,100
Lone-Parent Families	$23,800	$25,100	$23,400
Non-Family Individuals	$19,100	$20,000	$17,800

*The Statistics Canada Low Income Cut-off, or LICO, is often used to define poverty. LICOs represent levels of gross income where individuals and families spend approximately 50% of their income for food, shelter and clothing. LICOs vary according to the size of the family unit and the size of the area of residence.

** Source: Statistics Canada, Small Area and Administrative Data Division, 1999 Family Data.

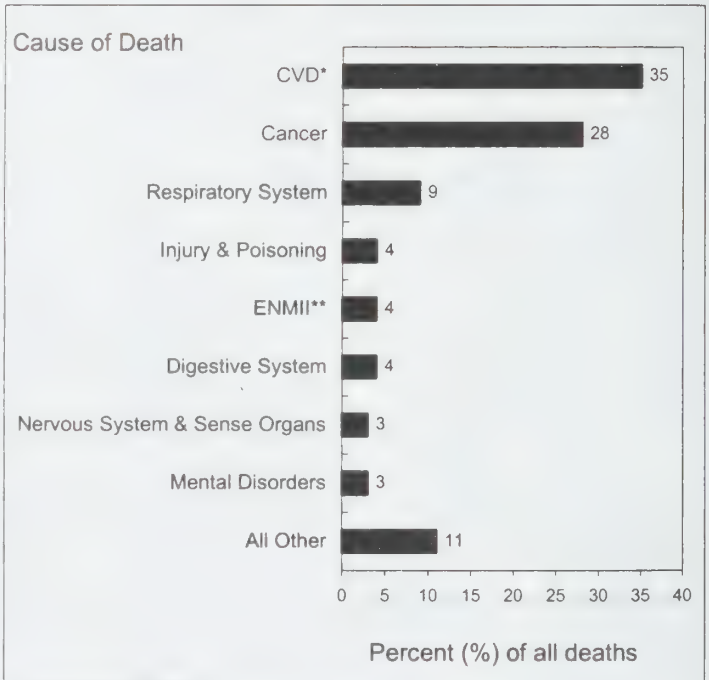
LEADING CAUSES OF MORTALITY AND MORBIDITY

This section provides an overview of all deaths, potential years of life lost, an indicator of premature death (i.e. deaths before age 75), and hospitalizations for Hamilton. Overall death rates are declining in Hamilton and Canada as a whole, mainly due to the drop in the death rate from heart disease. Chronic diseases, such as heart disease and cancer, remain the leading causes of death and hospitalization. Many chronic diseases are preventable through modification of individual behaviours and improvements to our social and physical environment, as well as economic conditions.

Deaths

Cardiovascular Disease (CVD) was the leading cause of death in 1997, accounting for 35% of all deaths in Hamilton (Figure 3). Cancer (28%) was the second leading cause of death, followed by diseases of the respiratory system (9%), digestive system (4%), injury and poisoning (4%), and endocrine, nutritional and metabolic diseases and immunly disorders (4%).

Figure 3. Percentage of All Deaths by Specific Causes, Hamilton, 1997



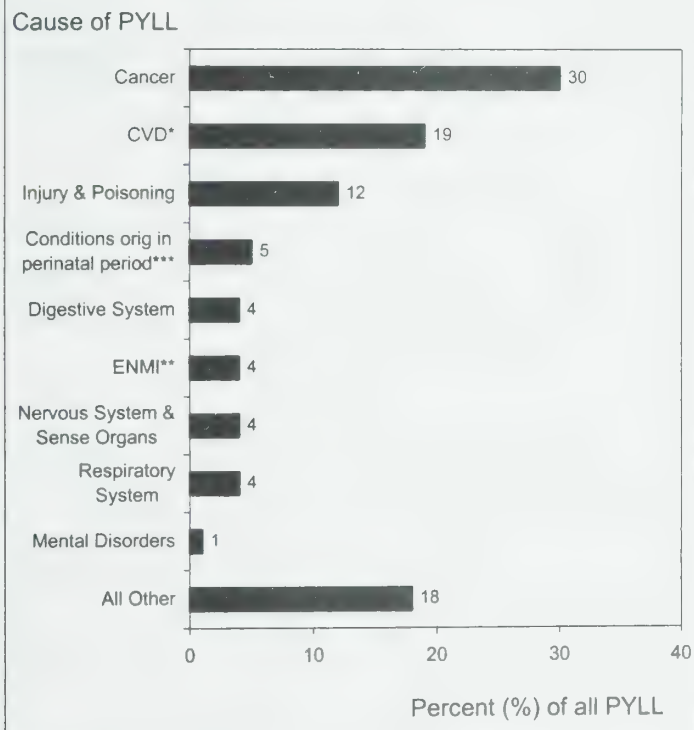
*cardiovascular disease
**endocrine , nutritional & metabolic diseases and immunity disorders

Source: MOHLTC, Provincial Health Planning Database, 2000.

Potential Years of Life Lost

Potential years of life lost (PYLL) is a measure of premature death, which sums the years of life lost for people who die before age 75. PYLL measures the disease burden of specific causes of death by giving more weight to deaths occurring at younger ages, hence to diseases causing death early in life. Cancer was the leading cause of PYLL in Hamilton in 1997, responsible for 30% of all PYLL among males and females (Figure 4). CVD accounted for 19% of PYLL, whereas injuries accounted for 12% and all other causes were responsible for the remaining 39% of PYLL.

Figure 4. Percentage of All Potential Years of Life Lost (PYLL) by Specific Causes, Hamilton, 1997



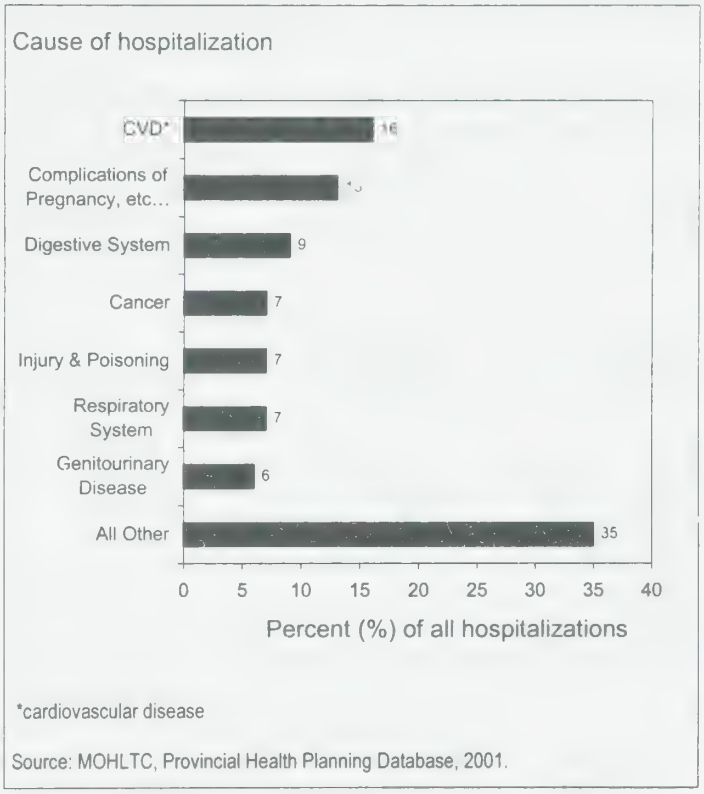
*cardiovascular disease
**endocrine, nutritional & metabolic diseases and immunity disorders
***certain conditions originating in the perinatal period

Source: MOHLTC, Provincial Health Planning Database, 2000.

Hospitalizations

CVD (16%) was the single most common cause of hospitalization during 1999/2000 (fiscal year) followed by complications of pregnancy, childbirth and the puerperium (13%), diseases of the digestive system (9%), cancer (7%), injury and poisoning (7%), and diseases of the respiratory system (7%) (Figure 5).

Figure 5. Percentage of All Hospitalizations by Specific Causes, Hamilton, 1999/2000 (fiscal year)



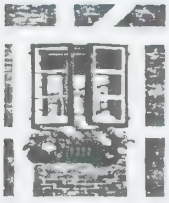
*cardiovascular disease

Source: MOHLTC, Provincial Health Planning Database, 2001.

Socio-economic Status and Health

The health status of populations have consistently been found to be associated with low income and low socio-economic status. Socio-economic status is made up of income, education and occupation. For example, low income tends to be found among people who have: less formal education; work at "blue-collar jobs"; and rent versus own their dwelling.

For further examples of the relationship between income and health, see the Housing, Employment and Income, and Health-Related Quality of Life pages. While this report often focuses on income and health, one must remember that these factors also relate to education and occupation.



Ownership/Rental Breakdown

Of the 178,425 private dwellings in Hamilton in 1996, 63% (112,190 dwellings) were owned and 37% (66,230 dwellings) were rented.

Age and Condition of Private Dwellings

In Hamilton, the majority of houses were built before 1971. Of the 178,425 (62%) private dwellings in 1996, 65% (115,285 dwellings) required only regular maintenance, 27% (48,505 dwellings) required minor repairs, and 8% (14,625 dwellings) required major repairs.

Between 1991 and 1996, the number of dwellings in Hamilton requiring only regular maintenance declined by 1% (1,335 dwellings). However, the proportion requiring minor and major repairs increased by 23% (9,040 dwellings) and 16% (1,980 dwellings) respectively.

Affordable Housing

Availability and cost relative to income are the two main obstacles to affordable housing. In Hamilton in 1995, 47% of tenants spent approximately one third of their income on rent and 23% of tenants spent more than half of their income on rent.

In 1996, there were 66,230 rental units in Hamilton with 57,460 (87%) of these units in the former City of Hamilton. From October 1999 to October 2000, the former City of Hamilton vacancy rate dropped from 1.9% to 1.8%. A vacancy rate lower than three percent may result in higher rent costs, less consumer choice and less maintenance. The vacancy rate for Hamilton Census Metropolitan area (CMA) is similar to that of Ontario and Canada as a whole (Table 2).

Table 2. 2000 Vacancy Rates, Hamilton CMA, Ontario and Canada

Area	2000 Vacancy Rate (%)
Hamilton CMA*	1.7
Ontario	1.6
Canada	1.6

Census Metropolitan area (CMA) includes the Cities of Hamilton, Burlington and the Town of Grimsby.

Source: CMHC Housing Market Survey, Statistics Canada, 2001.

If an individual is eligible for social assistance (Ontario Works) a shelter allowance is provided. As of August 2000, there were 11,440 total cases on social assistance in Hamilton. Of these clients, 41% (4,720 clients) had their total actual rent costs covered by the shelter allowance whereas 59% (6,720 clients) did not. Since 1995, the gap between social assistance shelter allowance and the actual rental cost of shelter has widened. Two factors have contributed to this widening gap. Firstly, provincial cuts to social assistance in 1995 reduced clients' income by 22%. Secondly, the supply of affordable rental housing has decreased due to elimination of provincial social housing supply programs, conversion of rental units into condominiums and the removal of rent control on vacant units. The gap for 2000 is shown in Table 3.

Table 3. Average Monthly Rent for Vacant Rental Units and Maximum Monthly Shelter Allowances, Hamilton, October 2000

Number of bedrooms	Average rent per month ($)*	Maximum shelter allowance per month ($)**
Bachelor	462	325 (1 person)
One Bedroom	556	511 (2 persons)
Two Bedroom	676	554—602 (2-4 persons)
Three Bedroom	794	649—673 (5,6+ persons)

Source: * CMHC Housing Market Survey, Statistics Canada.
** Ontario Works.

Of the 14,200 not-for-profit housing units funded by the former City of Hamilton, 43% (or 6,102) of units were owned by the former City of Hamilton as of January 2001 through its non-profit housing corporation. A further 57% (or 8,098) of units are managed by the 38 housing provider members of the Community Housing Access Network (CHAN), including non-profits, co-operatives and the local housing authority. There are about 5,000 additional local units of not-for-profit housing that are funded by the federal government. At the end of June 2001, 3,180 people were on the CHAN waiting list. On average, there are 450 new applications per month.

As a consequence of unaffordable and unavailable housing, people may double up with friends and family or end up camping or living in vacant buildings, outdoor spaces or shelters. In March 2001, approximately 260 people used overnight emergency shelter and hostel services per night in Hamilton. This is an increase from 175 people in March 2000. There is particular concern regarding the rise in shelter/hostel use among youth.

Table 4. Percentage of Renters Spending 30% or More of Total Household Income on Shelter, Hamilton, Ontario and Canada, 1996

Area	Percentage of renters spending 30% or more of total household income on shelter (%)
Hamilton	46.8
Ontario	44.2
Canada	43.0

Source: Statistics Canada, Health Indicators, 2000.

Supportive Housing

For some people who have physical, mental or developmental challenges, housing is only adequate when it includes a component of support for the daily activities of life. Individuals who have been discharged from in-patient mental health programs, rehabilitation programs, correctional institutions, and hospitals may also need support reintegrating into daily life and assistance finding employment and appropriate housing.

Housing options for these people include Homes for Special Care, Residential Care Facilities (known provincially as Domiciliary Hostels), Care Homes, Housing with Outreach and Mobile Engagement Services (H.O.M.E.S.), and non-profit or other housing with in-home assistance from support workers. As of June 30, 2001 there were 90 Residential Care Facilities in Hamilton and 190 persons were placed in the H.O.M.E.S. program in Hamilton. The lack of client centred supports that are accessible, available and portable, may impact people's functionality and increase their risk of homelessness.

Long Term Care

Hamilton has traditionally experienced a shortage of Long-Term Care (LTC) beds. Populations eligible for LTC supportive housing include seniors, persons with a physical disability, persons with AIDS/HIV, and persons with an acquired brain injury.

The waiting list of 1,736 as of July 31, 2001 underscores the continued demand for LTC beds in Hamilton. Recently however, the Ministry of Health and Long-Term Care funded 2,505 permanent LTC beds and 102 interim beds (February 2000) in Hamilton. An additional 1,223 LTC beds are projected to be added by 2003 with an additional 85 beds targeted for 2006. This will result in a total increase of 1,308 LTC beds by 2006.

The current chronic shortage of LTC beds within Hamilton, could be ameliorated by increasing the availability and range of supportive housing options in Hamilton and by providing a range of multi-level care settings for those requiring long-term care services.

Homelessness

The issue of homelessness is not new to Hamilton. In fact, the city is in the midst of a housing crisis. The Social Planning & Research Council (SPRC) recently published a number of reports detailing homelessness issues in Hamilton. The "Community Action Plan on Homelessness in Hamilton-Wentworth" 2000, outlines a number of actions and strategies to address homelessness in the municipality. There are also a number of local agencies directly involved in dealing with homelessness issues.

The SPRC report defines homelessness as having two components:

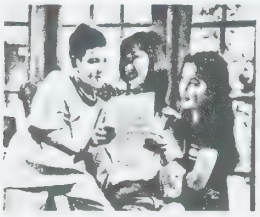
Absolute homelessness:
When an individual/family has no housing at all, or is staying in a temporary shelter.

Relative homelessness:
When an individual or family does not have housing that is safe, secure, adequate, accessible, and permanent, or is living in housing that costs in excess of 50% of their income.

The Community Action Plan identifies a number of "homelessness" priorities. Broadly summarized, these priorities include:

- Supporting the emergency shelter hostel system, drop-in program, and transitional housing
- Outreach services for homeless singles and families
- General housing information and support i.e. finding housing, finding housing with supports, keeping or maintaining housing, and help with evictions and other legal issues
- Food access and food security issues
- Homelessness service planning and coordination

The issue of homelessness remains complex and can not be viewed in isolation. Homelessness is interrelated with other issues such as inadequate income, lack of accessible, available and affordable housing, deinstitutionalization/lack of discharge planning and other social and health issues such as domestic violence.



Poverty Profile

In 1990, 17% of the Hamilton population lived below the poverty line (that is, had total incomes below the Statistics Canada Low Income Cut-Off). By 1995, 22% of residents lived in poverty, giving Hamilton the second highest poverty rate after Toronto (28%) when compared to other Ontario municipalities.

Poverty in Hamilton was more prevalent among specific groups in 1995. Poverty rates for some groups were:

- Single parent families with children under 18 years: 64%
- Recent immigrants: 50%
- Aboriginal peoples:48%
- Unattached individuals: 48%
- People not in the labour force: 32%
- Children aged 14 years or under: 27%

Urbanization of Poverty

Whereas 69% of the total Hamilton population lived in the former city of Hamilton, this area was home to 87% of poor people in 1995. This urbanization of poverty is due to a number of factors: middle and upper income families settling in suburban areas to raise children; poor individuals and families migrating to the city for better access to services; and, unattached individuals (typically poorer than families) attracted by the city centre lifestyle.

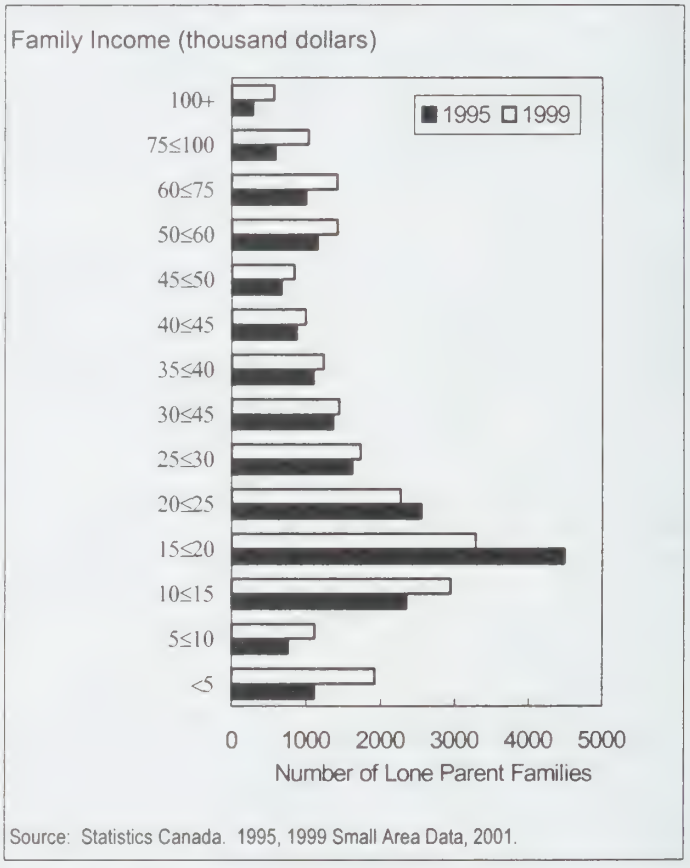
Increasing Income Disparity

In Hamilton, the number of census families in both very high and very low income brackets increased between 1995 and 1999. For instance, the number of lone parent families with an income of less than $10,000 increased by 62% (from 1,870 families in 1995 to 3,030 in 1999) (Figure 6). At the other end of the scale, the number of lone parent families in higher income brackets (greater than $60,000) increased by 61% between 1995 and 1999 (from 1,880 families in 1995 to 3,020 in 1999). Similarly, husband-wife families that earned less than $10,000 increased by 18% (from 3,200 in 1995 to 3,790 in 1999) and those in higher income brackets increased substantially as well (e.g. those earning between $100,000 and $150,000 increased by 53%).

While no one knows the exact reason for increasing income disparity between 1995 and 1999, some possible reasons include deeper cuts to income security programs and uneven changes in the labour market (caused by a mix of improvements and losses in employment opportunities).

The above income figures have not been adjusted for cost of living changes (i.e. inflation). Between 1995 and 1999, the accrued inflation rate, or the amount one's income would have needed to increase to have equal buying power, was 5.9%. Adjusting income may account for part of the increase in the numbers of families (both lone parent and husband-wife) in the higher income categories between 1995 and 1999. Adjusting income, however, does not account for the increase in the number of families in lower income categories, since adjusting income would have been expected to have the opposite effect.

Figure 6. Number of Lone Parent Families by Family Income, Hamilton, 1995, 1999



Source: Statistics Canada. 1995, 1999 Small Area Data, 2001.

Social Assistance

Ontario Works (OW) is a social assistance program available for single people, families, and sole support parents that find themselves in need of financial assistance. In July 2001, Ontario Works had 11,436 Hamilton residents on its caseload (one case per household), comprised of 25,562 beneficiaries (includes recipients and other family members living in the same household). The number of cases and beneficiaries has decreased since the download of provincial cases which was completed in 1999.

Historically, the majority of the OW caseload has been single individuals. This changed in 1999 when the province completed the downloading of social assistance for sole support families to municipalities. In 2001, sole support parents comprise 65% of the total Ontario Works caseload. This number has risen from 60% in 2000.

The Ontario Disability Support Program (ODSP) provides income support for people with disabilities and their families. The program is mandated to meet the long-term needs of people with disabilities and support them towards independence. The ODSP provides employment supports to participants to help reduce or eliminate barriers to employment. In April of 2001, the ODSP had 11,888 Hamilton participants on its caseload, comprised of 23,994 beneficiaries. For 2001, at any given point in time, it is estimated that approximately 1,000 Ontario Works cases are awaiting acceptance onto the ODSP program.

Food Bank Usage

Each year in March, the Canadian Association of Food Banks conducts a Hungercount survey of its members. In March 2001, statistics collected for Hamilton indicated that approximately 5,300 households used local food banks. This figure is down 3% from the approximate 5,470 households using food banks in 1999. This decrease is partly due to the loss of service of one local agency.

The total number of persons using food banks in March 2001 was 13,240. Of that figure 57% (7,540) were adults and 43% (5,700) were children. Among those using Hamilton food banks, 31% were single individuals while 30% were sole support parents.

Cost of a Nutritious Food Basket in 2001

A 'nutritious food basket' estimates the average cost to purchase foods which meet current nutrition recommendations for individuals or families (Table 5). The cost of a nutritious food basket is important when assessing the adequacy of incomes for supporting healthy eating.

Between 2000 and 2001, the average weekly cost of a nutritious food basket for people in various scenarios increased. For example, in 2001, it cost a reference family of four (Table 5) an average of $111.29 per week, 10% more than the 2000 average rate of $101.30 per week. For 2000, the provincial average cost for the same reference family was $111.08. (2000 data, based on 31 boards of health, was the most recent Ontario data available at time of report).

When housing costs and other basic living expenses are considered, many individuals and families on social assistance or minimum wage do not have an adequate income to purchase nutritious food on a consistent basis. These individuals often face the difficult choice between meeting their basic shelter needs versus meeting their nutritional needs.

Table 5. Average Weekly Cost of a Nutritious Food Basket for Selected Individuals and Families, Hamilton, 2001

Type of individual / family	Average cost per week
Single male (19-24 years)	$40.31
Single mother (25-49 years) with 7-year old daughter	$50.33
A family of 4 individuals (male and female each 25-49 years; boy 13-14 years; girl 7-9 years)	$111.29
Single female (75 years or older)	$27.42

Source: Hamilton Social and Public Health Services Department, 2001

Employment and Poverty

Education, employment and occupational skill level are strong predictors of income level, but are no guarantee against poverty. In general, the likelihood of living in poverty decreases as education levels, employment activity and occupational skill levels increase. However, high educational achievement, full employment and high occupational skill levels do not protect all individuals and their families from poverty. For example, in the former City of Hamilton in 1995, the poverty rate for people who had less than a secondary education was 32% and the rate for those with post-secondary education was 16% (Table 6).

Table 6. Percentage of People Living Below and Above the Poverty Line by Education Level, Employment Status and Occupational Skill Level, former City of Hamilton, 1995

Characteristic	Percent (%) of people living	
	Below poverty line	Above poverty line
Education Level		
Post-secondary	16	84
Less than secondary	32	68
Employment Status		
Full-time, year-round	7	93
No employment	49	51
Occupational Skill Level*		
High	11	89
Low	24	76

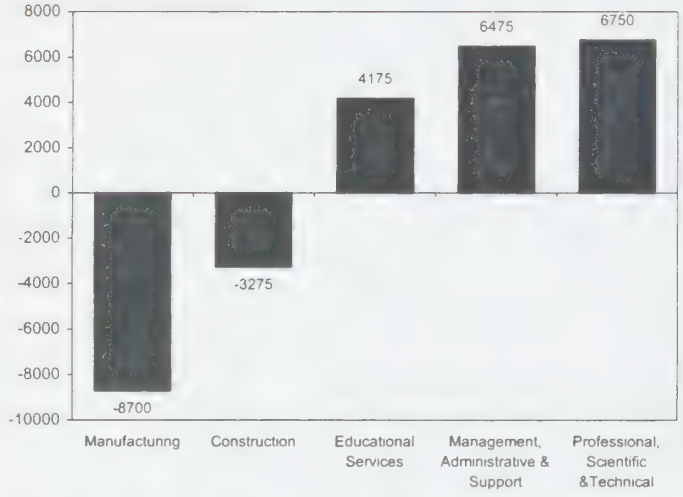
*High skill level occupations include management, technology, skilled crafts and trades. Low skill level occupations include sales, service and manual work

Source: Canadian Council on Social Development, 1995 Urban Poverty Database, Statistics Canada, 2000.

In the former City of Hamilton in 1995, the poverty rate was 49% for people with no employment and the rate for people with full-time, year round employment was 7% (Table 6).

The former City of Hamilton poverty rate among people with low level occupational skills was 24% and the rate for people with high level occupational skills was 11% in 1995 (Table 6). The higher poverty rate among individuals with low level occupational skills may be due to the economy's shift towards technology and away from manufacturing. This has resulted in an increased demand for industries using high level occupational skills (such as management and professionals) and a lower demand for industries using low level occupational skills (such as manufacturing and construction) (Figure 7).

Figure 7. Change in the Number of Employees in Selected Industries in Hamilton CMA*, between 1990 and 2000

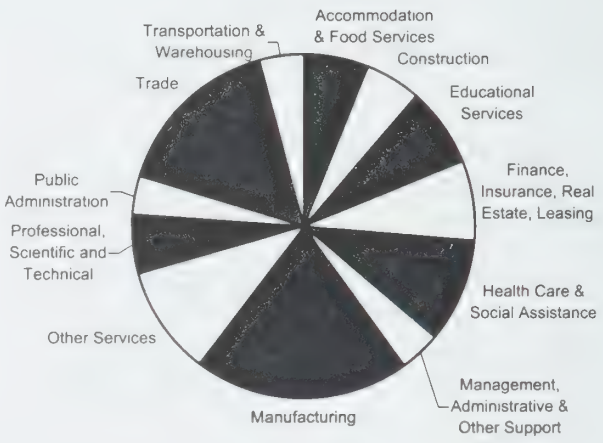


Census Metropolitan area (CMA) includes the Cities of Hamilton ,Burlington and the Town of Grimsby

Source: HRDC, Labour Force Survey, 2000.

The recent shift towards technology based employment should be considered together with the current distribution of employment positions to get a complete picture. For example, while the most jobs were lost in manufacturing between 1990 and 2000, this industry still employs the most people. (Figure 8)

Figure 8. Number of Employees by Industry (annual average), Hamilton CMA*, 2000



*Census Metropolitan area (CMA) includes the Cities of Hamilton, Burlington and the Town of Grimsby.

Source: HRDC, Labour Force Survey, 2000.

Older Adults and Income

According to the 1996 Census, 21% (8,155 individuals) of 65 to 74 year old Hamilton residents lived below the low income cut-off.* Thirty-two percent (7,465 individuals) of Hamilton residents 75 years or older were considered poor. All together, 25% (15,620 individuals) of males and females 65 years and older were living below the low income cut-off. Older adults in Hamilton, particularly females over 75 years of age, were at risk of living in poverty as compared to older adults in Ontario and Canada overall (Table 7).

Table 7. Number and Percentage of Older Adults Living Below the Low Income Cut-Off by Sex, Hamilton, Ontario and Canada, 1995

Sex	Age category	Number of individuals in Hamilton living below LICO*	Percentage of age category living below the LICO*		
			Hamilton	Ontario	Canada
Female	65-74	5,150	24%	17%	20%
	75+	5,720	40%	27%	30%
	(total 65+)	10,870			
Male	65-74	3,000	17%	11%	13%
	75+	1,740	20%	12%	13%
	(total 65+)	4,740			

*The Statistics Canada Low Income Cut-off, or LICO, is often used to define poverty. LICOs represent levels of gross income where individuals and families spend approximately 50% of their income for food, shelter and clothing. LICOs vary according to the size of the family unit and the size of the area of residence.
Source: Canadian Council on Social Development, 1995 Urban Poverty Database, Statistics Canada, 2000.

Air Quality

Approximately 100 to 300 premature deaths and 300 hospitalizations are estimated to occur in Hamilton each year due to air pollution. Sources of local air pollution include local car and truck traffic, long range atmospheric transport of pollution (for example, from Ohio Valley and Detroit) and local industry.

Hamilton declared seven smog episodes (comprising 12 smog days) during the summer of 2001 (May to August). This compares to no smog days during the summer of 2000. These advisories generally lasted 1 to 2 days, with the exception of one in late June, which lasted 4 days. Smog is produced when high levels of air pollution react in the strong sunlight that is typical of hot, humid air masses. Such weather conditions promote smog formation and inhibit dispersion. High poor air quality readings result. Global warming is affecting our local climate by causing a general rise in temperature. When looking at any one year, normal annual fluctuations in weather patterns can obscure the effects of global warming. Over time, however, smog episodes are likely to become more frequent and intense, especially in the continued absence of meaningful improvements in smog-causing pollution.

Clean Air Hamilton (CAH) (formerly known as the Hamilton-Wentworth Air Quality Initiative –HAQI) is a collaborative, multi-sectoral initiative, aimed at identifying and examining air quality issues, making recommendations, and implementing strategies to reduce many of the harmful emissions that lead to air quality related illnesses.

The air pollutants most strongly linked to cardio-respiratory diseases include: particulates (PM_{10} and TSP), acid aerosols (SO_x and NO_x) and ground level ozones. According to CAH's Progress Report 2000, progress towards abating these air pollutants has been positive, however improvements are still needed. Examples of progress being made include:

Inhalable particulate levels (PM_{10})
These particles are up to 10 microns in diameter and when breathed into the lungs, up to half are not breathed out again. These particles may aggravate bronchitis, asthma and other respiratory conditions, may be carcinogenic, or may be toxic to the body in other ways. Since 1991, PM_{10} levels have declined by about 20% in most areas of Hamilton.

Sulphur Dioxide Levels (SO_2)
These particles are acidic and exposure to high levels may cause breathing problems, respiratory illness, changes in the lung's defenses and worsening respiratory and cardiovascular disease. Since 1990, SO_2 levels have decreased by 30% at industrial sites, and have been unchanged at a downtown site.

Improvements are still needed in the following areas:

Ground level ozone
This is a dominant constituent of smog and is emerging as a major air quality problem. Very strong research exists linking ground level ozone to respiratory disease. In terms of trends, levels have been variable throughout the 1990's, with no notable upward or downward trend to report.

Total Suspended Particulates (TSP)
Are particles with diameters of less than 100 microns. Health effects include aggravating bronchitis and asthma and other respiratory diseases. Since 1993, TSP levels have increased 20%, primarily in the industrial zone, but have remained constant elsewhere.

Some of CAH's initiatives include a community smog plan, strategies to reduce the number of single-occupancy auto trips (e.g. commuter challenges), an anti-idling campaign, and promotion of public awareness through social marketing.

Asthma

The incidence of asthma has been increasing over the last few decades in the developing world, especially among children. A 1999 study conducted in an area around the Western end of Lake Ontario (Oakville to Hamilton to Brantford) estimated that 17% of children (ages 6 to 7 years) and 19% of adolescents (ages 13 to 14 years) have asthma (self-reported). Information on important risk factors, such as smoking and exposure to second-hand smoke, was not obtained in this study.

Nationally, between 1978 and 1996, the proportion of children (ages 0 to 14 years) with self-reported asthma rose from 3% to 12%. For Canadian youths aged 15 to 19 years this proportion rises to 14%. Asthma is also the leading cause of hospitalization for children (ages 0 to 14 years), in both Hamilton and Canada, despite the fact that, nationally, hospitalizations due to asthma dropped 31% between 1994/95 (fiscal year) and 1999/2000 (fiscal year) (with the majority being children under 15 years of age). This decline is contrary to the trend of increasing rates of self-reported asthma. While the reasons for the decline in hospitalizations are not yet known, leading experts suspect that it is due to the general trend of treating more often on an out-patient or day-patient basis, while decreasing the number of hospital admissions. On a population-wide basis, 7% of the Hamilton population aged 12 years and older self-reported asthma.

Factors that should be included in future studies on the prevalence of childhood asthma are indoor air quality (second-hand smoke, pets, dust mites), time spent indoors, outdoor air quality and climate conditions.

Prevention of Asthma

In addition to a number of common indoor allergens, two known asthma triggers are outdoor air pollution and smoking (both active and passive, or second-hand smoke).

Air pollution - Asthma is made substantially worse by current concentrations of particles and ground-level ozone. The links between ground-level ozone and increased health care use (such as increased emergency room visits for asthma, and increased acute admissions for respiratory illness) are now supported by strong evidence from North American studies. While there are good reasons to believe that air pollution causes asthma, rather than simply worsening the symptoms, evidence is currently not available.

Smoking - Passive smoke is especially irritating to the respiratory system. Exposure of the fetus, infant and young child to tobacco smoke increases the risk of asthma. Active smoking, when combined with occupational sensitizers, increases one's risk of developing asthma.

Estimating Disease Burden

Premature deaths and hospitalizations from diseases/ conditions linked to air pollution is a research area gaining momentum. Much attention is now being given to air pollution disease burden models. These formulas try to estimate the current, and often future, impact of air pollution on a society, in terms of health outcomes (deaths and hospitalizations) and health care costs. In 2001/2002, members of Clean Air Hamilton will be researching the various methods used to assess disease burden, and selecting the most appropriate method for Hamilton. Disease burden estimates will be updated and made available in 2002.

Safe Water

Municipal Water

There are five owned and operated water distribution systems in Hamilton. The vast majority of the new City is serviced by a system that draws water from Lake Ontario prior to treatment. These five systems serve approximately 425,000 people. Four other smaller systems use well water. During 2000, one Boil Water Advisory was issued for one of the well water systems. A Boil Water Advisory is issued when the water is considered contaminated with bacteria or other organisms which indicates an increased risk of infection in humans. Residents are advised to have their water at a rolling boil for two minutes prior to ingestion.

Well Water

There are approximately 14,000 wells located within Hamilton. Approximately 40,000 people depend on these private wells as a source of potable water. A 1999 study revealed that approximately 30% of the wells in Ancaster, Flamborough and Glanbrook failed to meet the Ontario Drinking Water Objectives for bacteria and/ or nitrate content. This is comparable to surveys done in other parts of Ontario.

Recreational Water

Hamilton has 8 public beaches. During the summer months, water from these beaches is sampled a minimum of once per week. If bacterial counts are high, signs are posted warning swimmers about the increased risks of swimming in polluted waters. During the summer of 2000 (late May to early September), the 8 public beaches were posted an average of 3 times per beach. Each of these beach closures lasted for about 7 days on average.

Food Safety

Enteric diseases are those spread by food or people. These diseases are reportable to the Medical Officer of Health. Examples include: *Campylobacter*, *Salmonella* and *Ecoli 0157:H7*. Incidents of these diseases often go unreported because the symptoms resemble common stomach and bowel problems. Higher rates of these illnesses are found in the summer due to factors such as inadequate refrigeration of foods and unsafe barbequing practices.

In Hamilton, reports of enteric, or gastrointestinal disease, totalled 313 in 1999 and 292 in 2000.

West Nile Virus

West Nile virus is an infection of birds which is sometimes transmitted to humans by mosquitoes. Prior to 1999, it was known only in parts of Africa, Asia and Europe.

Since its introduction to North America in New York City in 1999, the virus has spread progressively throughout the eastern half of the United States and into Southern Ontario. A total of 62 human cases were reported in the U.S. in 1999, 21 in 2000 and 37 in 2001 (as of the date of this report).

For Ontario, while no human cases have been reported, more than 120 positive dead birds had been identified as of the time of this report. This compares to four identified in Hamilton for the same time period. Mosquito trapping and speciation were initiated in Hamilton in 2001.

Beginning in the spring of 2000, Ontario public health agencies, in cooperation with provincial and federal ministries, have been undertaking surveillance among humans and dead birds (particularly American Crows and Blue Jays), to monitor for the virus in Ontario. Contingency plans to minimize the impact of the virus have been developed.

Use of tobacco and illicit drugs, and abuse of alcohol at any age, are behaviours associated with increased risk of illness, disease, injury and disability.

Tobacco Use

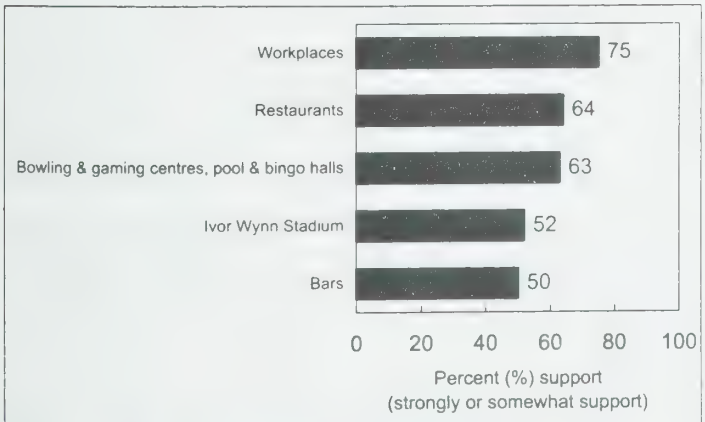
Smoking rates in Canada in 2000 reached the lowest overall level since regular monitoring of smoking began in 1965. Unfortunately, this positive picture did not apply to 15 to 19 year olds whose lowest prevalence of smoking occurred in 1990. In 2000, 24% of the Canadian population aged 15 years and older were daily or occasional smokers (26% of males, 23% of females). In Hamilton, an estimated 25% of residents aged 18 years and older were daily or occasional smokers (27% of males, 24% of females) in 1996/97.

Second-hand Smoke

Second-hand smoke contains over 40 chemicals known to cause human cancers. Non-smokers are placed at health risk through exposure to second-hand smoke from exhaled smoke and smoke from the burning end of cigarettes. Each year in Hamilton, an estimated 50 non-smokers die from diseases related to second-hand smoke.

Hamilton is currently seeking to harmonize the smoking bylaws of the six former municipalities. Evidence demonstrates that only a by-law that ensures all public places are 100% smoke-free offers adequate protection for workers and the public from the developmental, respiratory, carcinogenic and cardiovascular effects of second-hand smoke. According to the 2000 Hamilton-Wentworth Health Survey, 88% of respondents believe that exposure to second-hand smoke is likely to cause health problems. Support for 100% smoke-free public places and workplaces is high and varies by site (Figure 9).

Figure 9. Overall Support for 100% Smoke-Free Public Places and Workplaces, Hamilton, 2000



Source: Hamilton Social and Public Health Services Department, 2000, Hamilton-Wentworth Health Survey, 2001.

Selling or Supplying Tobacco to Minors

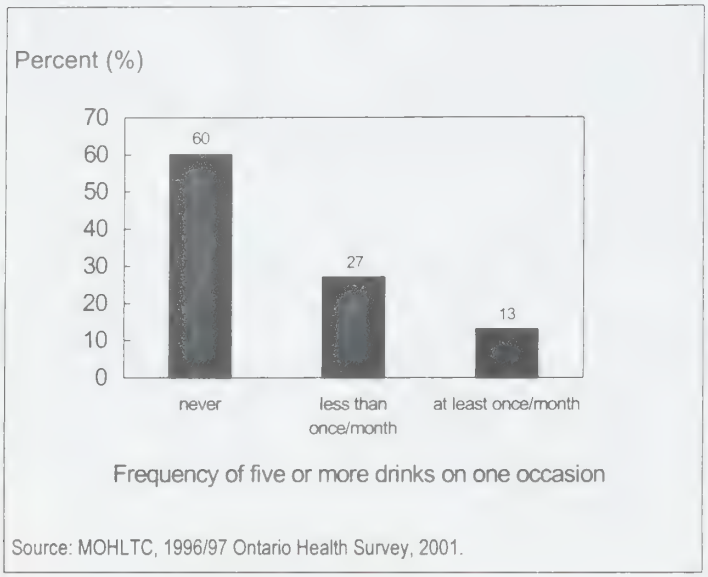
Under the Tobacco Control Act (TCA), it is illegal to sell or supply tobacco to persons under 19 years of age (i.e. a minor). To determine whether or not a retailer is selling or supplying tobacco to a minor, a compliance inspection (CI) is conducted. CIs involve a minor, employed by the health department, attempting to purchase tobacco products from a retailer. Of the 506 compliance inspections conducted in 2000, 13% (or 64) of retailers received warnings for selling or supplying tobacco to minors. Of those stores which received warnings, 19% (or 12) were charged, based on a repeat compliance inspection. Thus, of all retailers who received a compliance inspection in 2000, 2.4% (or 12 out of 506) were convicted for selling or supplying tobacco to minors.

Alcohol Use

Fetal Alcohol Syndrome (FAS) is one of the leading causes of preventable birth defects and developmental delays in Canada. Estimates suggest that 1 to 3 out of every 1,000 infants are born with FAS. Affected children may experience growth delay; memory, attention, and intellectual impairment; hyperactivity, poor impulse control, and learning disabilities. Later in life, individuals with FAS may experience mental health problems, disrupted schooling, trouble with the law, inappropriate sexual behaviour and alcohol and drug problems at higher than average rates.

In 1996/97, of the 78% of Hamilton women of childbearing age (15 to 44 years) that reported having a drink in the last 12 months, 13% reported binge drinking, that is, drinking five or more drinks on one occasion, at least once per month (Figure 10). Since there is no established safe level of drinking (amount or timing) during pregnancy, Health Canada recommends that women who are pregnant or planning a pregnancy, abstain from drinking alcohol.

Figure 10. Percentage of Females (that had a drink in the past 12 months) of Childbearing Age (15-44 years) That Binge Drink (five or more drinks on one occasion), Hamilton, 1996/97



Source: MOHLTC, 1996/97 Ontario Health Survey, 2001.

Adult Drug Use

The 2000 Centre for Addiction and Mental Health Monitor Survey found that tobacco and alcohol are the most commonly used drugs among adults, followed by various illicit substances. In 2000, 11% of Ontario adults reported using cannabis during the past 12 months. The use of cannabis during this period was more prevalent among males than females. Presently, there are more cannabis users in the adult population than there were 20 years ago.

A relatively small proportion of Ontario adults report using other illicit drugs. For example, in 2000, 1% of adults reported using cocaine and 2% reported using ecstasy during the past 12 months. Most substance use behaviours varied according to sex. For example, males were more likely than females to use cocaine, as well as ecstasy at least once in their lifetime.

Drug Use Among Students

According to the 1999 Ontario Student Drug Use Survey (OSDUS), alcohol was the drug used most often (71%) in the past year by grade 7 to grade 13 students in Western Ontario (up from 61% in 1997). After alcohol, students reported using cannabis (32%) and cigarettes (31%).

According to the fall 1998 Canadian Campus Survey, 83% of Ontario university undergraduates reported alcohol use in the past 12 months. In the same survey, 63% of Canadian students reported at least one episode of binge drinking (drinking five or more drinks on one occasion) since the beginning of the school year in September. Cannabis use was reported by 24% of Ontario students in the past 12 months. At 14%, the rate of daily (not including occasional) cigarette smoking was higher for Ontario students than for students attending universities in other provinces.

Raves and Drug Use

In 1999, the OSDUS estimated 19% of all Ontario students (in grades 7 to 13) reported having attended a rave at least once during the past year. In the survey, a rave was defined as a large all-night dance party that is quickly organized and promoted by word-of-mouth. Significantly more males reported attending a rave than females (21% vs. 16%). Rave attendance has become more common among Ontario students. For example, the proportion of students who reported attending a rave at least once in the past year increased between 1995 and 1999 (13% vs. 19%). Students in grade 7 reported the highest increase.

Much of the concern over raves is focused on the use of designer drugs such as Ecstasy. Among those Ontario students who reported attending a rave during the past year, 16% reported using Ecstasy. Ecstasy use among the general Ontario student population (regardless of rave attendance) was estimated at 5% in 1999, up from 1% in 1993.

Short-term health effects of designer drugs such as Ecstasy include dehydration and overheating, hallucinations, depression and aggression. Less is known about the long-term effects of these drugs, however, residual psychiatric and physical problems are thought possible.

The research literature provides evidence that ecstasy use is a cause of death, however the true number of deaths involving ecstasy or related drugs is unknown. A recent worldwide review of the literature found case reports for 87 deaths involving ecstasy or related drugs. The deaths were reported among persons aged 16 to 53 years with an average age of 23 years. Not all ecstasy-related deaths are diagnosed as such. Furthermore, not all ecstasy-related death case reports are submitted for publication. Therefore, it is currently not possible to estimate the true number of ecstasy-related deaths on the basis of published case reports.

Daily physical activity, eating properly and achieving and maintaining a healthy weight can help prevent heart disease, cancer, stroke, high blood pressure, diabetes, osteoporosis and obesity. Regular physical activity can also enhance mobility among seniors. An individual's lifestyle behaviours, such as physical activity levels and eating habits, are formed at an early age. This underscores the importance of encouraging the development of healthy behaviours among young children.

Physical Activity

Different levels of physical activity result in different levels of health benefit. 'Active' individuals are those who exercise enough to gain cardiovascular benefits (e.g. approximately 30 minutes of accumulated exercise per day). 'Moderately Active' defines those who exercise enough to gain some health benefit, but no cardiovascular benefit (e.g. 15 to 30 minutes accumulated exercise, 2 to 3 times a week). 'Inactive' defines those who do not exercise enough to gain any health benefit. In Hamilton, females tend to be less active than males. In 1996/97, for individuals aged 20 years and over, an estimated 25% of males and 21% of females were moderately active, while 51% of males and 62% of females were inactive.

Food Habits

The 1997/98 Food Habits Of Canadians Survey found that Canadians have reduced their fat intake since the early 1970's from 40% to 30% of total calories, meeting Nutrition Recommendations for Canadians.

However, many Canadians are not meeting the recommended minimum number of servings from Canada's Food Guide to Healthy Eating. Of note were low intakes of dairy products and vegetables and fruit. For example, 50% of male and 58% of female adults were not meeting the recommended 5 to 10 servings of vegetables and fruit per day. As a result, consumption of calcium, folate, iron, zinc and dietary fibre is suboptimal for many individuals.

One reason for Canadians not achieving the recommended number of servings is that excess energy is being consumed through 'other foods' such as snack foods, soft drinks and desserts.

Healthy Weight

There is an increasing number of individuals who are overweight and obese in both Hamilton and Canada as a whole.

The Body Mass Index (BMI) is a method of determining if an individual's weight is within a healthy range. Generally, people aged 20 to 64 years of age, who have a BMI between 20 to 25 are considered to be at a 'healthy weight'; those with a BMI greater than 25 yet less than or equal to 27 are overweight and may be at risk of ill health; while those with a BMI greater than 27 are considered obese and at significant risk of ill health. BMI is not applicable for certain individuals (e.g. the elderly, very muscular people and pregnant women). In 1998/99, approximately 49% of the population in Hamilton aged 20 to 64 had a BMI of 25.1 or over and were either overweight or obese. Comparative data for Ontario and Canada is provided in Table 8 below.

Table 8. Table Percentage of Population Age 20-64 Who are Overweight or Obese (has BMI>25), 1998/99

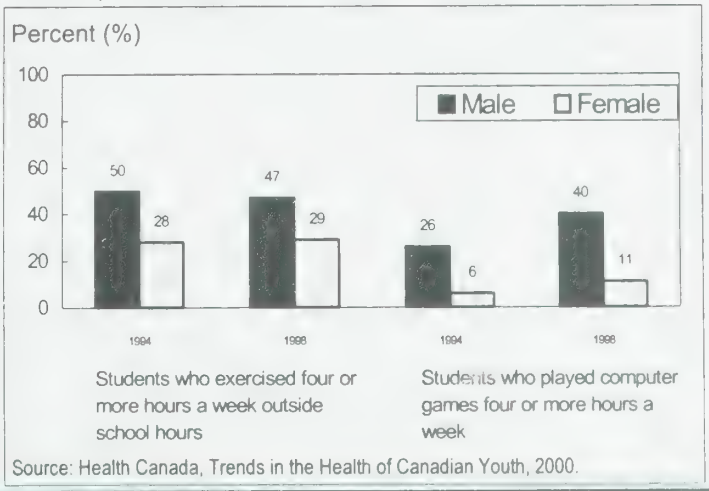
Area	Percentage of population age 20-64 who are overweight or obese (%)
Hamilton	48.5
Ontario	49.6
Canada	47.9

Source: Globe and Mail and Statistics Canada, 2001.

People of healthy weight are often physically active. In Hamilton, in 1996/97, individuals with a healthy body weight were more likely to be physically active (25%) compared to those who were obese (14%). Conversely, individuals who were obese were more likely to be physically inactive (63%) compared to those with a healthy weight (47%).

Childhood and adolescent obesity is an emerging health issue. Contributing factors include an increased intake of high calorie and less nutritious foods and a decline in physical activity due to increased computer and television use, reduced physical activity in school curriculum, and car travel verses walking or cycling (Figure 11).

Figure 11. Percent of Students in Grade 8 who Exercised Four or More Hours per Week Outside of School and who Played Computer Games Four or More Hours per Week by Sex, Canada , 1994 and 1998



Source: Health Canada, Trends in the Health of Canadian Youth, 2000.

Body Image

Body image is an important component of self-esteem. Young people who have a negative body image often develop harmful behaviours to change the way they look. Harmful behaviours may include unhealthy eating habits such as strict dieting, which increases the risk of developing nutritional deficiencies.

In Hamilton, in 1996/97, 27% of residents aged 12 to 19 years old perceived themselves to be either overweight or underweight. This compares to about 24% of Ontario residents. In Ontario, 12 to 19 year-old females (21%) were more likely to perceive themselves as overweight than were males (10%). Conversely, males (12%) were more likely to perceive themselves as underweight than were females (6%). Similar data can not be released for Hamilton due to small numbers.

Eating Disorders

The interplay of numerous factors including emotional, psychological, interpersonal and social factors are thought to place a person at risk of developing eating disorders. However, researchers continue to learn about the underlying causes of these conditions. Body image influences self-esteem, and low-self esteem is among the many psychological factors that can potentially contribute to an eating disorder.

Self-Reported Health Improvements

In Hamilton, in 1996/97, 52% of residents, aged 12 years and over, did something to improve their health in the previous year. Increased exercise / sports / physical activity (65%), loss of weight (11%) and changed eating habits (10%) were the most common improvements reported. Lack of willpower and time were the most common barriers to improving physical health.

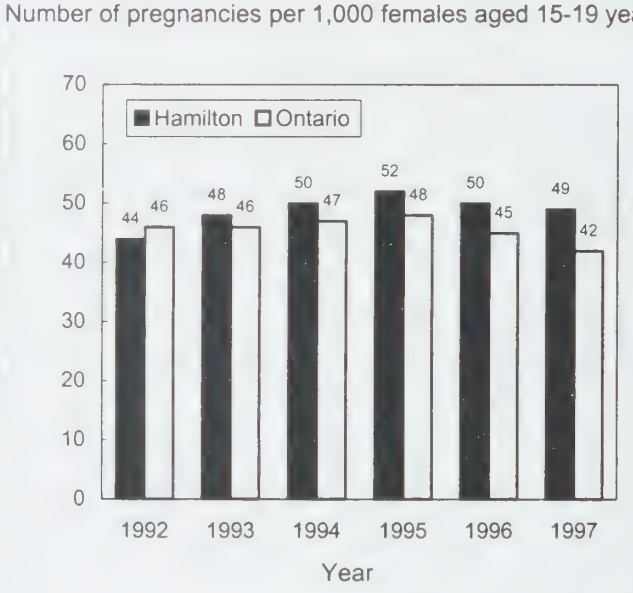
When asked what was the most important thing they were doing to follow a healthy diet, the majority (46%) reported eating balanced meals/variety of food, followed by eating lower fat foods (14%) and eating more fruits and vegetables (13%).

Teen Pregnancy

In addition to unprotected sex, teen pregnancy is associated with socio-cultural factors such as poverty and unemployment, family factors such as a family history of teenage parenting, and personal factors such as low self-esteem, depression, substance use, history of sexual abuse and low interest in school. Teen mothers and their infants are at increased risk of poor health outcomes such as toxaemia, premature birth and low birth weight.

Following the 1976 introduction of Ontario sexual health programs, the Hamilton known teen pregnancy rate decreased by 30% from 62 pregnancies per 1,000 females aged 15 to 19 years in 1976 to 43 per 1,000 in 1989. However, from 1992 to 1995 the known teen pregnancy rate increased in Hamilton while remaining relatively constant in Ontario (Figure 12). Since 1995, however, the Hamilton rate has seen a small but non-significant decrease, while the Ontario rate dropped significantly, to a rate below that for 1992. In 1996 and 1997, the known teen pregnancy rate for Hamilton was significantly higher than that for Ontario.

Figure 12. Known Pregnancy Rate† per 1,000 Females Aged 15 to 19 Years, Hamilton and Ontario, 1992-1997*



† Known pregnancy rate = (live births + still births + therapeutic abortions)/total population aged 15 – 19 years

*Most recent female data available. The 1996 and 1997 pregnancy rates use abortion data which has been averaged for 1995, 1996 and 1997.

Source: MOHLTC, 1992-97 Ontario Live Birth, Still Birth & Abortion Databases, 2001.

In 1997, 340 babies were born to teenage mothers (15 to 19 year-olds) in Hamilton. This represents a teen fertility rate (number of live births per 1,000 teen females) of 24 per 1,000, the same as the 1996 fertility rate.

A review of the research evidence shows that effective teen pregnancy prevention programs tend to actively involve participants, focus on behaviours, social pressures, modelling and skill rehearsal, and include trained adult or peer leaders. Comprehensive programs that include the school, community, parents, and clinics should be considered. Furthermore, we should be encouraged and learn from those countries with low teen pregnancy rates (such as the Netherlands). This country uses a multi-faceted community approach including positive messages about responsible sexual behaviour in the media, sex education, and confidential, accessible, affordable birth control services.

Sexually Transmitted Diseases

Reduction of the following sexually transmitted diseases (STDs) could be achieved through delayed sexual activity by youth, safer sex practices, screening and treatment of positive cases.

Chlamydia

Chlamydia accounted for 89% (or 786) of newly reported STDs in Hamilton in 2000. In Hamilton, and Canada as a whole, the overall chlamydia rate rose from 1999 to 2000. For Hamilton, this increase amounted to 38% or an increase of 217 cases from 1999 to 2000. This rise is considered an indicator of an increasing trend of unprotected sexual intercourse. Reasons for the increase in reported chlamydia cases nationally and in Hamilton may include such things as:

- the use of more sensitive and acceptable (i.e. less patient discomfort) testing methods, and
- a true increase in the incidence of chlamydia infection.

Additional reasons for an increase in Hamilton include:

- enhanced contact tracing by SPHS personnel, and
- local research projects that have provided chlamydia screening to traditionally underserved populations, such as street youth.

Females had 72% of all chlamydia infections reported in Hamilton in 2000. Of these cases, 79% occurred in females aged 15 to 24 years (1,466 cases per 100,000). This was higher than the Ontario rate of 928 per 100,000 population. It was also higher than the public health target for the year 2005 of 500 cases per 100,000 females aged 15 to 24 years.

Gonorrhea

The incidence of gonorrhea declined in Hamilton from 51 per 100,000 population in 1990 to 19 per 100,000 in 2000. The Ontario gonorrhea rate (24 per 100,000 population) was higher than that for Hamilton in 2000.

HIV and AIDS

There were 15 new HIV infections reported in Hamilton in 2000 compared to 11 in 1999 and 12 in 1998. Among the 15 new cases, there were more females than males. Hamilton's 1999 rate is substantially lower than that for the province (2.2 per 100,000 vs. 8.0 per 100,000).

The most commonly reported risk factor for contracting HIV among Hamilton males was having sex with a HIV positive male partner. This was also true for females.

There were 8 new cases of AIDS reported in Hamilton in 2000 compared to 6 in 1999 and 9 in 1998. Among the 8 new cases in 2000, there were more males than females. Three-quarters of new AIDS cases were between the ages of 30 to 39 years. For 2000, Hamilton's AIDS rate is about twice that for Ontario (1.6 per 100,000 vs. 0.7 per 100,000 respectively).

Health-related quality of life can be characterized by self-reported health status, the healthy days index, and activity limitation.

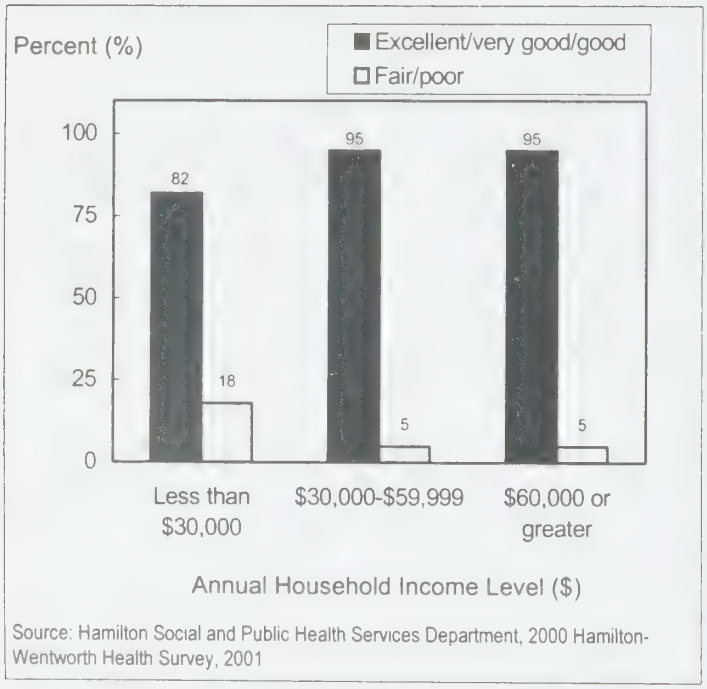
Self-Perceived Health Status

Self-perceived health status reflects what people think about their own health. According to the 2000 Hamilton-Wentworth Health Survey (HWHS), 90% of respondents aged 18 years and over stated that, in general, their health was excellent, very good or good. Ten percent reported that their health was fair or poor.

Although self-perceived health status was better, on average, among younger people, 76% of Hamilton adults 65 years and older reported that their health was excellent, very good or good in 2000.

Self-perceived health status also varies by income level. Hamilton residents with higher household incomes were more likely to report positive health status (excellent, very good or good) than residents with lower household incomes in 2000 (Figure 13).

Figure 13. Self-Perceived Health Status by Annual Household Income Level, Hamilton, 2000



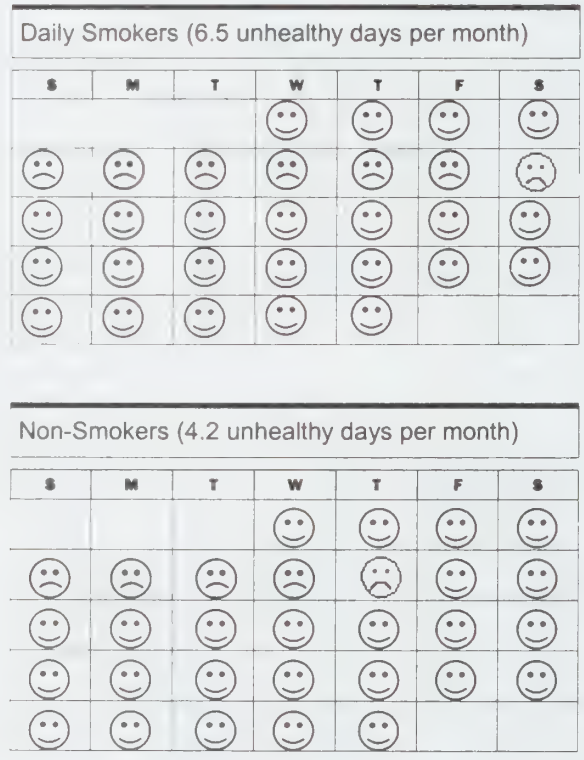
Source: Hamilton Social and Public Health Services Department, 2000 Hamilton-Wentworth Health Survey, 2001

Another measure of health-related quality of life is the number of days per month that adults experience poor mental and/or physical health. According to the 2000 HWHS, adults (ages 18 years and over) reported an average of 4.7 unhealthy days per month.

As with self-perceived health status, the average number of unhealthy days varies by population characteristics such as income and smoking status. Individuals at the lowest annual household income level (less than $30,000) reported an average of 6.5 unhealthy days per month. However, individuals at the middle annual household income level ($30,000 to $59,999) reported an average of 4.3 unhealthy days per month and individuals with an annual household income of at least $60,000 reported an average 3.7 unhealthy days per month.

Smoking also is related to lower health-related quality of life (Figure 14). The average number of unhealthy days per month was higher among daily smokers (6.5 days) than non-smokers (4.2 days) in Hamilton in 2000.

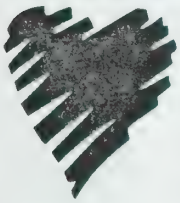
Figure 14. Average Number of Unhealthy Days per Month by Smoking Status, Hamilton, 2000



Source: Hamilton Social and Public Health Services Department, 2000 Hamilton-Wentworth Health Survey, 2001.

Activity Limitation

Most respondents (79%) to the 2000 HWHS did not experience limitations with activities such as self-care, work or recreation due to poor physical or mental health in the 30 day period prior to the survey.



Cardiovascular disease (CVD) refers to diseases of the circulatory system including ischemic heart disease and stroke. CVD is the number one killer of both males and females in Hamilton and Ontario.

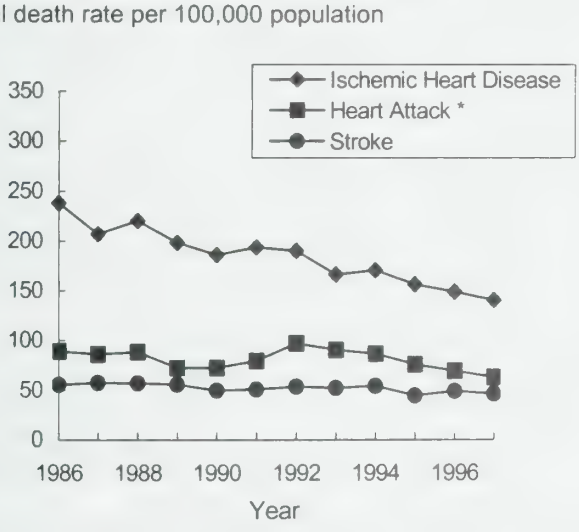
Deaths

CVD was the leading cause of death in 1997, accounting for 1,419 deaths or 35% of all deaths in Hamilton (compared to 37% in Ontario). While 51% of male CVD deaths occur before age 75, only 23% occur before age 75 in females.

Of the CVD deaths in 1997, 826 (58%) were due to ischemic heart disease, 276 (19%) were due to stroke and the remaining 317 (22%) were due to other diseases of the heart and blood vessels.

In Hamilton, death rates for ischemic heart disease declined between 1986 and 1997 as well as for Canada (Figure 15). Changes such as a decrease in smoking rates and better treatment of high blood pressure have contributed to the decline.

Figure 15. Age-Standardized* Death Rates for Ischemic Heart Disease, Heart Attacks and Strokes, Hamilton, 1986-1997



*Death rates were age-standardized to the 1991 Canadian population.
*Heart attack is a subcategory of ischemic heart disease.

Source: MOHLTC, Provincial Health Planning Database, 2000.

Age and Gender Differences in Hospitalizations

In general, there is a steady rise of CVD hospitalizations as age increases. For example, overall, adults aged 85 years and older have a twelve fold higher hospitalization rate than those aged 45 to 49 years. This trend is true for males as well as females.

Hospitalization rates also vary by sex. In Hamilton, in 1999/2000 (fiscal year), males had an overall hospitalization rate 28% higher than the female rate. This difference exists for all age groups and the degree of difference widens from 20% to 100% as age increases up to age 75, after which the difference between rates is small.

In addition, hospitalizations occur at younger ages among males compared to females. For males, the majority of hospitalizations occur among those aged 35 to 64 years (38%). This is followed by 65 to 74 years (30%), 75 to 84 years (23%) and those aged 85 and over (7%). For females, the majority of hospitalizations occur among those aged 75 to 84 years (32%). This is followed by 65 to 74 year olds (27%), 35 to 64 year olds (23%) and those aged 85 and over (7%).

Early Prevention is Key for Both Sexes

Males develop and die from heart disease earlier in life than females. However, just as many females die from heart disease as males (706 vs. 713 respectively in 1997). Because of this, and because lifestyle habits and disease precursors start to develop at an early age, both sexes must focus on early prevention. Some key areas where prevention needs to occur are the prevention of smoking and promotion of physical activity among youth.

- In 1996/97, 32% of Hamilton youth (aged 15 to 24 years) reported being daily or occasional smokers compared to 28% in Ontario for the same time period.
- As of 1996/97, 43% of youths aged 12 to 19 years were active. The provincial objective is to increase the proportion of youth who are active to 60%.

Table 9. Selected CVD Indictors, Hamilton , Ontario and Canada, 1996

Area	CVD death rate* per 100,000 population (both sexes)	Heart attack, chance of dying within 30 days
Hamilton	246.0	13.0
Ontario	245.7	N/A
Canada	245.8	N/A

*Age-standardized to the 1991 Canadian population
Source: Health Indicators, Statistics Canada and CIHI, 2001

In 1996, Hamilton's CVD death rate was similar to both the rates for Ontario and Canada (Table 9). In Hamilton in 1996, 13% of individuals who suffer their first heart attack died within 30 days following hospitalization. Comparison data for Ontario and Canada were not available (Table 9).

Cancer represents a group of diseases caused by unregulated growth of abnormal cells in various sites of the body. Cancer is the leading cause of premature mortality in Hamilton and Canada overall. In addition, it ranks second, behind cardiovascular disease, for absolute number of deaths in Hamilton. In 1997, cancer was responsible for 1,114 deaths, 28% of all deaths in Hamilton. It is estimated that tobacco, diet and physical inactivity are responsible for approximately 65% of fatal cancers in Ontario. Occupational exposures to carcinogens and family history both account for an additional 5% of fatal cancers, while air pollution is thought to contribute to 2%.

The remaining 23% of fatal cancers are due to other causes including viruses, reproductive factors, alcohol, socio-economic status, UV and ionizing radiation, drugs and food additives and contaminants.

In 1996, the overall cancer death rate was significantly higher in Hamilton, than in Ontario as a whole (Table 10), and was comparable to that of Canada as a whole.

Table 10. Overall Cancer Death Rate[Φ] for Hamilton, Ontario and Canada, 1996

Area	Cancer death, rate per 100,000 population, both sexes
Hamilton	190.0
Ontario	180.5
Canada	185.7

[Φ] Malignant neoplasms (ICD-9 140-208); age standardized to 1991 Canadian population.

Source: Health Indicators, Statistics Canada and CIHI, 2001.

Potential Years of Life Lost

Potential years of life lost (PYLL) is a measure of premature death calculated by adding up all of the years of life lost for people who died before the age of 75. Cancer was the leading cause of premature death in Hamilton in 1997, responsible for 30% of all PYLL among males and females.

Although more males die from cancer every year, female specific cancers occur earlier in life. In 1997, Hamilton males lost 4,038 years of life to cancer, while females lost 3,891 years. Lung cancer was the greatest contributor to cancer PYLL in Hamilton males at 29% followed by colorectal cancer (11%). Almost half of all cancer PYLL in Hamilton women were due to breast (27%) and lung (20%) cancers.

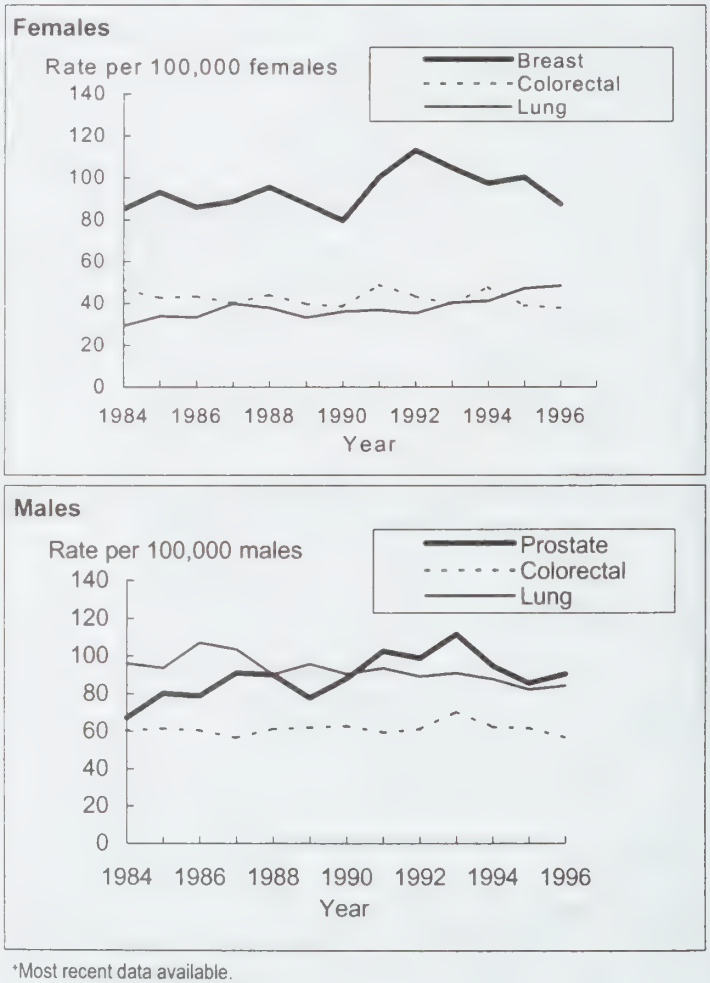
Trends in Incidence and Mortality

Lung and Breast Cancer

In Hamilton, there were 348 new cases of lung cancer and 252 new cases of female breast cancer diagnosed in 1996. Furthermore, there were 294 deaths due to lung cancer and 99 deaths due to breast cancer in 1997. The most startling observation over recent years is the sharp increase in female deaths due to lung cancer. In fact, while breast cancer remains the most commonly diagnosed cancer among females (Figure 16), lung cancer has exceeded breast cancer as the leading cause of cancer death among females in Hamilton (lung: 38 per 100,000 population vs. breast: 35 per 100,000 in 1997).

The increase in lung cancer incidence and death rates in females corresponds to increased tobacco use among females in the 1960s and 1970s compared to previous decades. It is estimated that at least 80% of lung cancer cases in Ontario are caused by smoking.

Figure 16. Trends in Age-Standardized* Incidence Rates for Selected Cancer Sites by Sex, Hamilton, 1984-1996+



+Most recent data available.
*Age-standardized to the 1991 Canadian population.
Source: MOHLTC, 1984-1996 Ontario Cancer Incidence Database, 2001.

Among Hamilton males, lung cancer is the leading cause of cancer deaths (63 per 100,000 in 1997) and the second most commonly diagnosed cancer (Figure 16). Recently, the incidence and death rates for lung cancer in males have declined. This trend is likely due to decreased tobacco use among males over the past 30 years.

Colorectal Cancer

Colorectal cancer is the third most common (Figure 16) and deadly cancer for males and females in Hamilton, and Canada overall. In Hamilton, in 1997, there were 115 deaths from colorectal cancer (20 per 100,000). Males are somewhat more likely to be diagnosed with and die from colorectal cancer as compared to females.

In Ontario, colorectal cancer mortality rates have been decreasing for both males and females. While incidence rates have stabilized for males, a slight decrease has been observed for females.

Skin Cancer

Skin cancer is the most common of all cancers. Fortunately, approximately 93% of skin cancers are non-melanoma and are treated successfully with early detection, diagnosis and treatment.

Approximately 7% of skin cancers are malignant melanoma—the most dangerous form of skin cancer. In Hamilton, malignant melanoma contributed to 55 new cases in 1996 (10 per 100,000) and 14 cancer deaths in 1997 (3 per 100,000).

Malignant melanoma was more commonly diagnosed among females (13 per 100,000) than males (7 per 100,000) in Hamilton in 1996. The melanoma incidence rate has increased over the past 20 years in Ontario.

Cancer of the Cervix and Prostate Cancer

In Hamilton, cancer of the cervix contributed to 28 new cases of cancer in 1996 and 9 deaths in 1997. In Ontario, the incidence and mortality rates of cancer of the cervix decreased between 1981 and 1995.

In Hamilton, prostate cancer contributed to 217 new cancer cases in 1996 and 68 deaths in 1997. Prostate cancer incidence rates increased among males in Hamilton between 1984 and 1996 (Figure 16).

Cancer Screening

Mammography

Early detection of breast cancer through mammography is a primary strategy towards reducing breast cancer deaths. Canadian guidelines recommend mammography every two years for females aged 50 to 69 years. In 1996/97, 64% of females in Hamilton aged 50 to 69 years reported having had a mammogram within the last two years, while 16% had a mammogram more than two years before and 20% never had one.

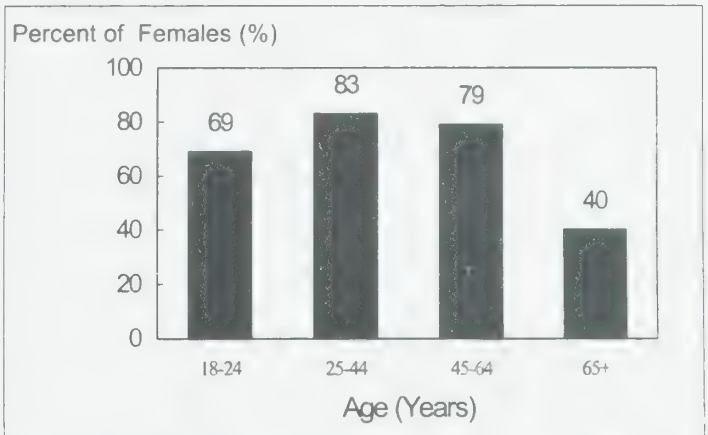
Pap Smear

Cancer of the cervix can be prevented through regular screening programs (Pap tests) that reach a higher proportion of the population, particularly high-risk females, older females, and those in low-socio-economic groups.

In 1996/97, 87% of females aged 18 years and over in Hamilton reported having had a Pap test at least once in their lifetime. This rate varies by age group and immigrant status. For example, the rate at which females reported ever having a Pap test was highest among those aged 45 to 64 years (96%) and lowest among those aged 18 to 24 years (69%). Furthermore, in Hamilton, 27% of female immigrants 18 years of age and over reported never having had a Pap test, compared to 9% of non-immigrant females.

In 1996/97, 73% of females in Hamilton aged 18 years and over reported having had a Pap test within the last three years, while 14% had a Pap test three or more years before and 13% never had one. The proportion of females who reported having had a Pap test within the last three years varied by age group (Figure 17).

Figure 17. Proportion of Females 18 Years and Over Who Reported Having a Pap Smear Within the Last Three Years, Hamilton, 1996/97



Source: MOHLTC, 1996/97 Ontario Health Survey, 2001.

Deaths

In Hamilton, there were 163 injury-related deaths in 1997 making injury the third leading cause of premature death. Unintentional falls (30%) were the leading cause of injury-related death followed by motor vehicle collisions (MVCs) (20%) and suffocation (8%).

Suicide deaths (17% of injury-related deaths) are covered under Mental Health (page 27).

Injury death rates varied by sex and age group in Hamilton in 1995-97. During this time period, deaths due to unintentional falls were more frequent among females (14 per 100,000) than males (10 per 100,000). In contrast, MVCs were more frequent among males (7 per 100,000) than females (5 per 100,000). Unintentional falls were the most common cause of injury-related death among people aged 85 years and over, especially females (397 per 100,000). Refer to Healthy Aging page for details (page 33). MVCs were most frequent among males aged 20 to 24 years (18 per 100,000).

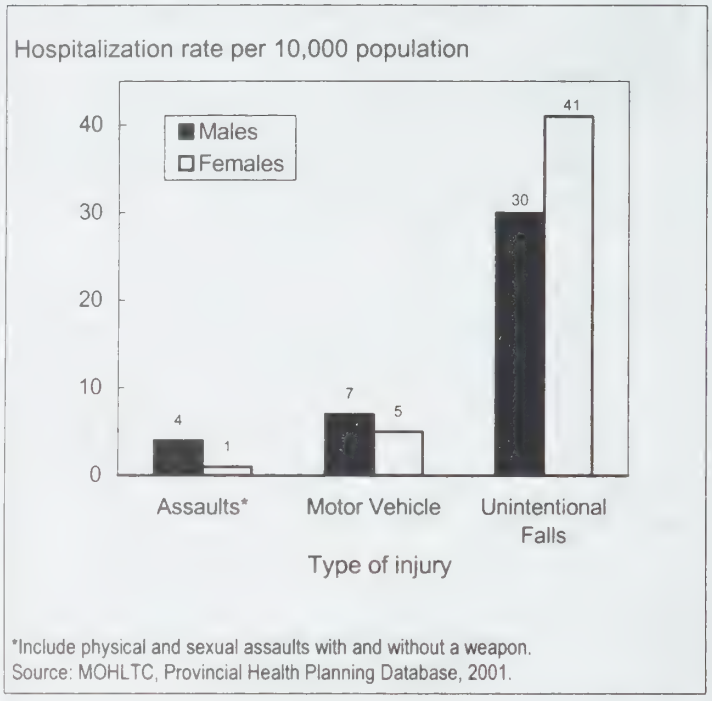
Hospital Utilization

In Hamilton, there was a total of 4,944 injury-related hospitalizations (excluding the 4,835 health care related hospitalizations) in 1997/98 through 1999/2000 (fiscal years). During this time period, unintentional falls were the most common cause of injury-related hospitalization followed by MVCs and assaults.

During 1997/98 through 1999/2000 (fiscal years), injury-related hospitalization rates varied by sex in Hamilton (Figure 18).

Hospitalization rates likely underestimate the true incidence of injury since only the most severe incidents result in hospitalization.

Figure 18. Hospitalization Rate due to Assaults, Motor Vehicle Collisions and Unintentional Falls, Hamilton, 1997/98 through 1999/2000 (fiscal years)



*Include physical and sexual assaults with and without a weapon.
Source: MOHLTC, Provincial Health Planning Database, 2001.

Spousal Violence

In Hamilton, the total number of reported spousal assaults rose from more than 900 in 1986 to 1,569 in 2000. In 2000, 80% of reported assault incidents resulted in charges being laid. Since 1991, there has been a dramatic increase in all types of charges related to spousal assault. This increase in the number of charges for reported incidents is largely due to a change in policy which allows police, in addition to victims, to lay charges.

Of the 1,569 spousal assault occurrences in Hamilton in 2000, 82% involved a female victim and male offender, 16% a male victim and female offender, and 2% involved same sex victim and offender.

The majority (80%) of charges were assault-related (applying force without the use of a weapon) followed by uttering threats (34%) and assault with a weapon or causing bodily harm (17%) (multiple charges can be laid per incident).

In 2000, Hamilton Police responded to approximately 8,400 domestic calls involving a range of criminal and non-criminal incidents including family and child custody disputes and property removal.

Traffic Collisions

The 1997-99 Hamilton-Wentworth Collision Report (Transportation, Operations and Environment Department) found that :

- Overall, 45% of drivers involved in a collision were recorded as driving properly. This proportion is much lower for drivers aged 16 to 19 years (36%) and 75 years and over (35%).

- The number of reported collisions involving alcohol has decreased from approximately 1,000 per year in the 1970's to 250 in 1999.

- Pedestrians aged 10 to 14 years of age were most likely to be involved in a collision. These collisions were most likely to be the result of crossing without right-of-way or running onto the roadway.

The above figures are based on collisions investigated by police and exclude collisions occurring on local highways.

Injuries Among Children and Youth

In Canada, the death rate due to injuries has decreased over the past several years for children and youth. Despite this decline, injuries remain the leading cause of death for children and youth aged 1 to 24 years. The most common causes of unintentional injury deaths among children and youth include motor vehicle traffic collisions, drowning, and suffocation. Childhood injury-related death rates vary according to sex for Canada as a whole, where boys are more likely than girls to die as a result of injuries. Rates also vary by income level, where children aged 1 to 14 years in the lowest-income families are more likely to die due to injuries than children in the highest-income families.

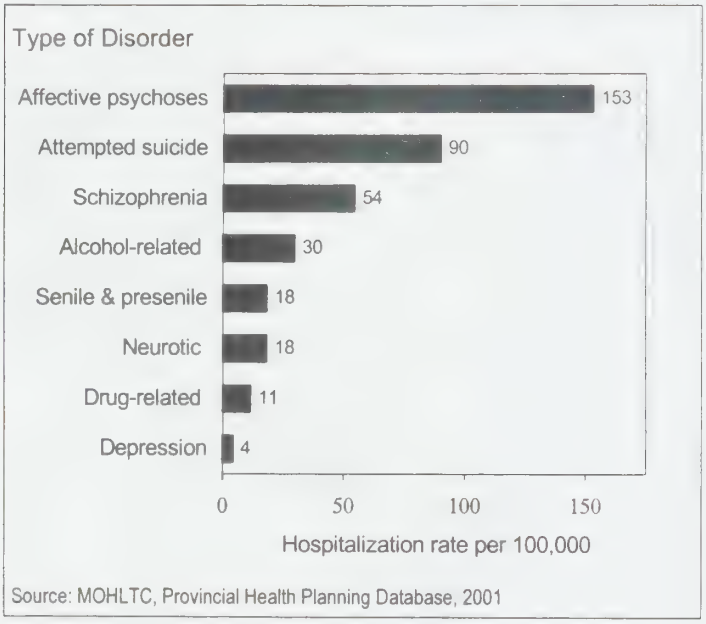
Injuries are also a leading cause of hospitalizations for school-aged children in Canada. The most common causes of injury related hospitalization among children and youth include unintentional falls, motor vehicle traffic collisions, assaults and poisoning. Among 5 to 14 year-olds, boys are more likely than girls to have an injury-related hospitalization. In 1996/97 (fiscal year), there were 197 injury-related hospitalizations among Hamilton children under 7 years of age. This translates into the same injury-related hospitalization rate as Ontario (4.4 per 1,000).

The public health importance of mental health is promoted by the World Health Organization. In Hamilton, mental disorders contributed to 115 deaths in 1997 and 1,902 hospitalizations in 1999/2000 (fiscal year). A conservative estimate of treatment and lost productivity costs due to depression and distress in Canada in 1998 is 14.4 billion dollars.

Hospitalizations

In Hamilton, the overall hospitalization rate for mental disorders was 395 per 100,000 population in 1995/96 through 1999/2000 (fiscal years). The hospitalization rate differs by type of disorder (Figure 19). These service utilization rates are subject to availability of services and do not include individuals treated by their family physician or on an outpatient basis, the homeless, or those living in prisons, shelters or psychiatric hospitals or institutions.

Figure 19. Hospitalization Rate for Specific Mental and Substance Abuse Disorders, Both Sexes, Hamilton, 1995/96—1999/2000 (fiscal years)



Source: MOHLTC, Provincial Health Planning Database, 2001

Depression

In typical depressive episodes, individuals usually suffer from depressed mood, loss of interest, and reduced energy. According to the WHO, 25% of females aged 12 years and over are expected to suffer from depression during their lifetime, compared to 13% of similarly-aged males. Depression affects individuals of all ages.

In Hamilton in 1996/97, 4% of non-institutionalized people aged 12 years and over reported a major depressive episode within the last 12 months and 7% reported feeling depressed in the last two weeks.

Suicide

Suicide is usually caused by a complex interaction of many factors such as mental and physical illness, substance abuse, and life stressors. In Hamilton, suicide accounted for an average of 39 deaths per year during 1993-97 and an average of 443 hospitalizations per year during 1997/98 through 1999/2000 (fiscal years).

In Hamilton, males had higher rates of documented suicide than females (13 deaths per 100,000 vs. 4 deaths per 100,000) in 1993-97. The suicide rate was highest among males aged 35 to 44 years (23 per 100,000). Suicide death rates only provide an estimate of completed suicides. An estimated 18% of female and 12% of male suicides are under-reported in Canada. The above rates therefore likely underestimate the true burden of suicide in Hamilton.

In Hamilton, attempted suicide rates were higher among females (101 hospital separations per 100,000) than males (80 per 100,000) in 1997/98 through 1999/2000 (fiscal years). Rates were highest among adolescent females aged 15 to 19 years (207 per 100,000) and young females aged 20 to 24 years (170 per 100,000). Thus, while more young females attempt suicide, more males die from their attempts. This difference by sex likely reflects the fact that men often choose more violent methods of suicide that do not allow for medical intervention.

Mental Health of Children and Adolescents

The Canadian Institute of Child Health has identified mental illness as the 'new morbidity' for children. The 1996 National Longitudinal Survey of Children and Youth showed that one in 10 Canadian children displayed behaviour indicative of a hyperactivity, conduct or emotional disorder. Boys (30%) were more likely than girls (22%) to have one or more of these behavioural and emotional problems. Furthermore, poor children were more likely to display problems than well-off children.

The 1998 Health Behaviour in School-aged Children Survey found that Canadian girls were more likely than boys to report feeling depressed and lonely. For example, among grade 10 students 35% of girls and 21% of boys reported feeling depressed at least once a week. Girls (21%) were also more likely to report feeling lonely compared to boys (11%) in grade 10. The majority of adolescents suffering from depression suffer from other disorders at the same time (i.e. anxiety, conduct and obsessive-compulsive disorders).

In Ontario, the Health Protection and Promotion Act identifies over 60 infectious diseases that must be reported to the local Medical Officer of Health. In 2000, 1,745 confirmed cases of reportable infectious disease were recorded for Hamilton, down 12% from 1,992 cases in 1999.

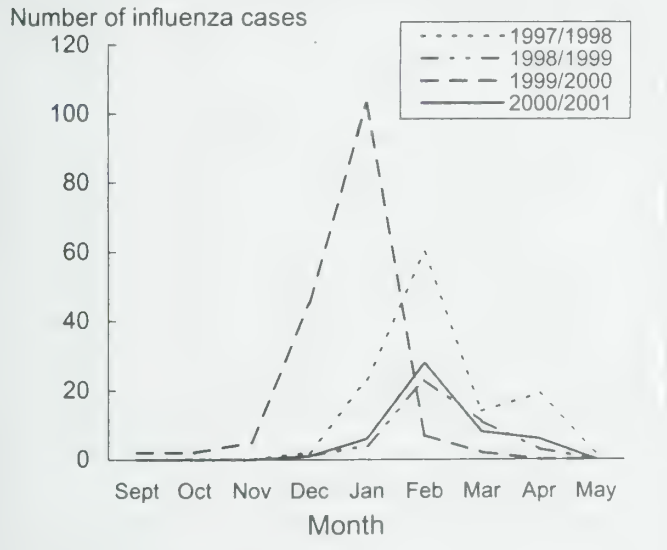
Influenza Pandemics

Pandemics (or world-wide epidemics) of influenza occurred in 1889, 1918, 1957 and 1968. Pandemics are caused by a new, virulent strain of influenza that can infect up to 75% of the population. The six to eight month lag time between isolating the strain and developing a vaccine puts very young, very old, and immuno-compromised people at risk of severe illness and possibly death. Hamilton's pandemic planning process is occurring in the areas of: influenza surveillance, communication, emergency services, health services, and vaccine and anti-viral delivery.

Influenza Season

Each year, the influenza season begins in the fall and lasts into the spring. In Hamilton, the 2000/2001 influenza season started approximately three months later than the 1999/2000 season, and at about the same time as the 1997/98 and 1998/99 seasons (Figure 20).

Figure 20. Number of Confirmed Influenza Cases by Month, Hamilton, 1997/98–2000/2001 Seasons



Source: Hamilton Social & Public Health Services Department, Reportable Disease Information System, 2001.

Influenza Outbreaks in Long-Term Care Facilities

In Hamilton there were no influenza outbreaks in long-term care facilities during the 2000/2001 season compared to 18 in 1999/2000, 5 in 1998/99. and 16 in 1997/98.

Long-Term Care Facilities Staff Immunization

Starting in 1999, increased efforts were made at both the provincial and local levels to raise staff influenza immunization rates in long-term care facilities (LTCFs) in order to decrease the spread of influenza.

In 2000/2001, 92% of staff in Hamilton LTCFs were immunized against influenza compared to 85% in 1999/2000 and 33% in 1998/99.

Universal Influenza Vaccination Program (UIVP)

The UIVP is a province-wide initiative that offers universal vaccination to Ontario residents free of charge. This program, which started in the 2000/2001 influenza season, was carried out in two stages. The first stage began in October and focused on the vaccination of high-risk groups. High risk groups included persons 65 years of age and over, individuals with chronic medical conditions (e.g. chronic heart disease), and persons living or working in high risk environments (e.g. LTCF's). The second stage focused on the general population and began in November.

An estimated 39% of Hamilton residents were vaccinated during the 2000/2001 flu season. This figure may be an overestimate as it represents vaccines ordered by physicians, medical facilities, hospitals, labs, retirement homes, LTCF's and worksites, and not the actual number of vaccinations administered.

Tuberculosis (TB) Control

In 2000, 19 new and reactivated cases of TB were confirmed in Hamilton (4 cases per 100,000 population) compared to 18 cases in 1999.

Multi-Drug Resistant Organisms

- TB - The emergence of multiple drug resistant strains of TB (MDR-TB) has become a global issue. MDR-TB strains are resistant to at least isoniazid and rifampin, two of the current antibiotics used to treat TB. Some strains have developed resistance to all known antibiotics. International travel has made the intercontinental spread of MDR-TB possible. Cases have already occurred in most Canadian provinces and territories. Early diagnosis and adequate treatment of all TB cases is the key to effective control. In 2000, there were 3 confirmed cases of MDR-TB in Hamilton.

- **Other Organisms** - An emerging issue in LTCF's and hospitals is the development and propagation of antibiotic resistant organisms. Examples are Methicillin-resistant Staphylococcus aureus (MRSA) and Vancomycin-Resistant Enterococci (VRE). In 2000, 853 cases of MRSA and 22 cases of VRE were identified in Hamilton Health Sciences Corporation and St. Joseph's Healthcare sites.

Low Birth Weight Babies

Babies who are born small often are at increased risk of illness, disability and death. Babies are born small because of a slow rate of fetal growth resulting in a birth weight of less than 2,500 grams (low birth weight (LBW)), because they are born too early (preterm – before 37 weeks gestation), and/or because of multiple births.

Research has shown that LBW babies make up approximately three-quarters of deaths within the first 28 days of life. Preterm and very LBW babies often require neonatal intensive care, estimated to cost $1,500 or more per day of care.

Research has suggested that babies that have had restricted fetal growth are at increased risk for some chronic diseases such as diabetes and heart disease later in life. Growth restricted LBW term babies occur more frequently among mothers who smoke, drink alcohol, have poor nutrition and live in low socio-economic circumstances. On the other hand, preterm babies are at greater risk of infant mortality and developing lung and neurological problems, and delayed psychomotor development. Other than smoking and poor nutrition, preterm risk factors are still, for the most part, unknown.

Prenatal classes, nutrition groups and the Healthy Babies Healthy Children program can help expectant mothers' modify their lifestyle choices and encourage communication between mothers, their partners and their health care providers.

Singleton versus Multiple Live Births

In 1997, there were approximately 5,695 live births to Hamilton females. Of these live births, 97.3% were singleton and 2.7% were multiple births.

Multiple birth is a risk factor for LBW. In 1997, 57% of multiple births were LBW. The percentage of multiple births rose slightly in Hamilton from a five year average of 2.2% (or 127) of all live births in 1981-85 to 2.4% (or 142) of all live births in 1993-97. This rise is thought to be due, in part, to an increase in births to older mothers and increased use of fertility treatments and assisted conception.

Total Low Birth Weight Rate

In 1997, the total LBW rate (number of LBW singleton and LBW multiple babies divided by total number of live births) was 6.2% in Hamilton compared to 5.9% for Ontario. The Hamilton rate has remained relatively stable since 1981 when 6.0% of all live births were LBW. Reducing the total LBW rate to 4.0% of all live births is the Ontario public health target for the year 2010.

Singleton LBW Term and Preterm Birth Rates

In Hamilton in 1997, approximately 8.2% (or 454) of all singleton live births were LBW and/or premature.

Canada has seen the rate of LBW term births decrease and preterm births increase. Among singleton live births in Hamilton, the LBW term rate has remained relatively stable (2.1% in 1991 to 1.9% in 1997.) In contrast, the Hamilton preterm birth rate has increased from 5.7% in 1991 to 6.4% in 1997. Some preterm babies are also low birth weight. The LBW preterm rate among singleton births in Hamilton remained constant from 2.9% in 1991 to 3.0% in 1997.

Reasons for the rise in the rate of singleton premature babies include increases in the practice of inducing preterm labour, increased preterm caesarean sections, better methods for determining gestational age, and improved technology to support pre-term life.

Infant Mortality

The infant mortality rate (IMR) is a long-established indicator, not only of child health, but also of the well-being of a community. Since infant mortality is a relatively rare event in Hamilton the IMR rate tends to fluctuate from year to year. Given this fluctuation, a five year average rate is used here.

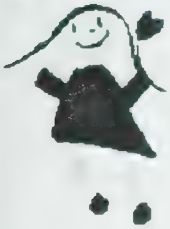
The IMR rate for Hamilton has decreased over the past 15 years from an average of 8.1 infant deaths per 1,000 live births during 1982 - 1986 to 6.6 infant deaths per 1,000 live births during 1993 - 1997.

The 1993-1997 IMR for Hamilton is higher than that for Ontario and Canada overall (Table 11).

Table 11. Average Infant Mortality Rate Per 1,000 Live Births, Hamilton, Ontario and Canada, 1993-1997

Area	Average infant mortality rate per 1,000 live births
Hamilton	6.6
Ontario	5.9
Canada	5.5*

* 1997 rate.
Source: MOHLTC, 1993—1997 Ontario Mortality and Live Births Databases, 2001.



Using population projection methods, children and youth (aged 19 years and younger) are expected to comprise 25% (127,260) of Hamilton's population in 2001.

The early years of child development, especially birth to three years, are critical in establishing a person's long-term learning and coping skills, behaviour and health status. Healthy child development requires a variety of responsive and nurturing community environments.

Population Aged 0 to 6 Years

Between 1976 and 1996, Hamilton experienced growth in its population of children aged 0 to 4 years and 5 to 9 years. During this 20 year period, the population of children aged 0 to 4 years increased by 3,060, or 11%, to 30,900. Whereas the population of children aged 5 to 9 years grew only slightly by 355 children, or 1.1%, to a total of 31,715.

Family Income

An economic family refers to a group of two or more persons who live in the same dwelling and are related to each other by blood, marriage, common-law or adoption. The poverty rate refers to the proportion of the population with a total income before taxes that falls below the Statistics Canada Low Income Cut-Off (LICO). LICO represents levels of gross income where individuals and families spend approximately 50% of their income on food, shelter and clothing and is based on the size of the community and size of the family. The poverty rate among economic families increased in the former City of Hamilton between 1990 and 1995, as it did in Ontario and Canada.

In Hamilton during 1995:

- 23,815 economic families were poor compared to 18,295 families in 1990. Of the 23,815 poor families in 1995, 44% had children under the age of six years and 25% had children between the ages of six and 12 years.
- 64% (or 7,840) of single parent families with children under 18 years were poor compared to 54% in Ontario and 55% in Canada.
- 63% of the poor, single parent economic families had no income earner in the family.
- 19% of economic families lived in poverty compared to 15% in Ontario and 16% in Canada

Child Care

Hamilton's Children's Charter of Rights advocates for access to high quality child care and early education programs designed to ensure the healthy development of our children.

In Hamilton, there are approximately:

- 130 licensed child care centre sites providing approximately 5,400 child care spaces.

This translates into enough licensed child care spaces for 6.4% of children aged 12 years and under (a projected population of 83,420 for 2001) in Hamilton. This compares to 8.5% for Ontario overall. Licensed child care centres are monitored by and accountable to various levels of government to ensure the optimal health, safety and development of children under their care.

Protective Care

Children are brought under protective care if they have suffered or are at risk of suffering physical, sexual or emotional harm. The number of children brought under protective care by local children's aid societies has increased over the past three years from approximately 700 in 1998 to 760 in 1999 and 900 in 2000.

Heightened awareness and sensitivity to child protection issues within our community could be contributing to this increase.

Special Needs

A disability may be physical in nature, or consist of a specific medical condition, developmental delay or mental disorder. In 1991 (most recent data), an estimated 7% of Canadian children aged 15 years and under residing in households experienced some level of disability. Among these children, 46% had a disability or long-term health condition that prevented them from participating in school, play or other normal activities.

Demands on the parents and families of disabled children vary according to the nature of the disability. However, there are a core set of basic supports required by these parents including assistance with activities of daily living, childcare, and education.

School Readiness

Recent studies have found that good nutrition, nurturing and responsive care giving during the early years, along with good early child development programs, have a strong, positive effect on children's learning. 'School readiness' is a useful indicator of brain development during the critical early years. It is also an indicator of a child's future success in school and overall developmental maturity. The school readiness of preschool children is assessed using cognitive behavioural competency tests. In 1996/97, the National Longitudinal Survey on Children and Youth (NLSCY) found that approximately 15% of all Canadian preschool children arrived at school with poor cognitive scores and 14% had scores indicating behavioural problems.

Reading, Writing and Mathematics

Basic reading, writing and mathematic skills are primarily acquired by grade 3. These skills are considered fundamental for continued learning and future success and well-being.

During the 1999/2000 school year, grade 3 students in Hamilton Public (approximately 4,000 students) and Catholic (approximately 2,000 students) schools were tested for reading, writing and mathematical abilities. In Hamilton overall, a slightly lower proportion of grade 3 students scored within or above expected reading and mathematics levels compared to Ontario grade 3 students overall. For example, 48% of Hamilton grade 3 students scored within or above the expected reading level compared to 49% of their Ontario counterparts. In Hamilton, 55% of grade 3 students scored within or above the expected mathematics level compared to 58% of Ontario grade 3 students. A slightly higher proportion of Hamilton grade 3 students (54%) scored within or above the expected writing level compared to Ontario grade 3 students (52%).

Within Hamilton the grade 3 test results varied between school boards and across individual schools. Test results are likely influenced by numerous socio-economic, educational and measurement factors including: family income and structure; parental education level and employment status; mother tongue and home language; immigrant status; school programs and teacher characteristics; and the reliability of the standardized tests and how they were administered in the classroom.

Bullying

Bullying is "an interaction in which a dominant individual repeatedly exhibits aggressive behaviour intended to cause distress to a less dominant individual". Past studies have found an association between childhood bullying and the development of problems later in life, for both bullies and their victims. Such problems include depression, anxiety, criminality, school drop-out and unemployment.

According to the 1996/97 NLSCY, 9% of Canadian children aged 10 to 13 years report being bullied in school all, most or some of the time. Similarly, 4% say they are bullied on the way to school all, most or some of the time.

Immunization Rates

Children attending school are required, by law, to have complete tetanus, diphtheria and polio (TdP) and measles, mumps and rubella (MMR) vaccination records. Each year the Social and Public Health Services Department monitors the immunization records of Hamilton students with the goal of maintaining high rates of immunization .

As evidence of the effectiveness of current pre-school and school age vaccination programs for children, no cases of diphtheria, polio, rubella or tetanus have been reported in Hamilton since 1997.

The proportion of complete TdP immunization records among seven year-old students was lower in the 1999/2000 school year (72%) compared to the previous school year of 1998/99 (89%).

In Hamilton, the proportion of complete MMR immunization records for the 1999/2000 school year was similar across all age groups. However, coverage rates were lower than during the previous school year (1998/99):

- 85% of seven year old students in 1999/2000 compared to 95% in 1998/99
- 86% of 17 year old students in 1999/2000 compared to 95% in 1998/99.

Up-to-date immunization is also required for all children attending licensed daycare facilities.

Hepatitis B Immunization Program

The Hepatitis B immunization program involves administering a complete course of Hepatitis B vaccine to grade 7 students. Up until the 1999/2000 school year, a complete course consisted of three doses. As of the 2000/2001 school year, a complete course is made up of only two doses.

In Hamilton, a complete course of vaccine was administered to the following proportion of grade 7 students over the past four school years:

- 85% in 1997/98
- 86% in 1998/99
- 86% in 1999/2000
- 83% in 2000/2001

Dental Health

The 2000/2001 Dental Indices Survey, conducted in a sample of Hamilton elementary schools, found that among screened Junior and Senior Kindergarten children:

- 71% (or 3,495 children) had never had a cavity, and those with cavities had, on average, decay in four teeth
- 30% (or 1,440 children) could have benefited from a visit to the dentist
- 14% (or 705 children) had serious, untreated dental problems (an increase from 11% or 572 children in 1999/2000).

Among all screened elementary school children a total of 1,749 were identified as having urgent dental needs.

Dental service needs vary across schools. Elementary schools with high, medium and low priority dental service needs were identified using student scores on the Dental Indices Survey (DIS) and the Children in Need of Treatment (CINOT) assessment. Among the 109 screened elementary schools in Hamilton in 2000/2001:

- 30% (or 33) were identified as high priority (an increase from 19% or 17 schools in 1999/2000)
- 21% (or 23) were identified as medium priority
- 49% (or 53) were identified as low priority

Screened students in high priority elementary schools were four times (24%) more likely to have serious, untreated dental problems compared to screened students in low priority elementary schools (6%) in 2000/2001.

Many of the schools with high priority dental service needs were located in areas where a higher proportion of families live below the Statistics Canada LICO compared to schools with low priority dental service needs. Lower income families experience more financial barriers to attaining good dental health than middle and high income families.

All children that are referred for dental treatment are followed up by SPHSD staff through parent contact. If financial barriers exist, parents are offered the CINOT (Children in Need of Treatment) program to ensure that urgent conditions are treated.

Physical Activities Levels Among Children and Youth

Physical activity is an important factor that contributes to the health and well-being of children and youth. Benefits of daily exercise include building bones, muscles, cardiovascular endurance and coordination, as well as reducing the risk of developing a chronic disease such as heart disease, diabetes, and osteoporosis.

According to the National Population Health Survey, leisure-time physical inactivity rates for young people vary according to age and sex. Overall rates of leisure time inactivity were found to be higher (38%) among 15 to 19 year-olds than 12 to 14 year-olds (24%) in 1998/99. In addition, females were more likely than males to report leisure-time physically inactivity. For example, 49% of females, aged 15 to 19 years, were physically inactive during their leisure-time compared to 28% of similarly aged males in 1998/99. Despite higher prevalence of leisure-time physical inactivity among females aged 15 to 19 years, self-reports indicate their physical activity levels increased from 25% in 1994/95 to 32% in 1998/99.

Access to Recreation

Participation in recreational activities such as sports and cultural programs contributes to the healthy development of children and youth. It has shown a positive effect on their physical and emotional health, academic performance, and self-esteem.

The NLSCY found that between 1994 and 1996 there were fewer children participating in sports and art lessons, more children participating in summer day camps, and no change to participation in clubs and community groups. Recent research has shown that the strongest predictor of children's participation in supervised sports is income level. For example, in 1994, over 60% of Canadian children from very poor homes "almost never" participated in supervised sports, compared to 27% of children from well-off homes. Barriers to participation include cost, lack of adult involvement and family time constraints, social and cultural barriers, and limited facilities at the neighbourhood-level.

An estimated 7% of Hamilton's population over 65 years old lived in long term care facilities in 1989 (most recent data available). A large proportion (52%) of residents in City-owned long term care facilities are 85 years of age and older, and approximately 76% of residents are female. The majority of senior citizens in Hamilton live independently and are actively involved in leisure activities or are volunteering with local agencies. They are a vibrant growing group who can be counted on to provide leadership and mentorship. As described in the introduction of this report, a wide range of factors influence health. One such factor that is particularly of interest among seniors is income, as a number of seniors rely on a fixed income. Please refer to the Employment and Income page for additional information on income and seniors.

Older Adults: Increasing in Number

Older adults (ages 65 years and older) represent a growing proportion of the population of Hamilton: from 9% in 1971 to 14% in 1996 and a projected 22% in 2028.

Living Longer

Over the past century in Canada, there has been a trend of increasing life expectancy for adults aged 65 years and older. In 1900, 65 year old males were expected to live an additional 11 years to age 76, and 65 year old females an additional 12 years to age 77. By 1996/97 in Hamilton, 65 year old males could expect to live to age 81, an additional 16 years, and 65 year old females could expect to live to age 85, or 20 more years.

Health-Adjusted Life Years

While living longer is important, staying healthy is probably equally as important. Health-adjusted life years measure how long one is expected to live disability/disease-free. It factors in one's health status and one's quality of life. While the life expectancy for individuals born in Hamilton in 1996 is 78.2 years, their health-adjusted (or disease-free) life expectancy is 71.6 years.

Activity Limitation

As people age, their chance of having one or more chronic conditions increases. Despite this increased risk with age, in 1999, 67% of Hamilton seniors who were not institutionalized, reported having no activity limitations due to an impairment or health problem.

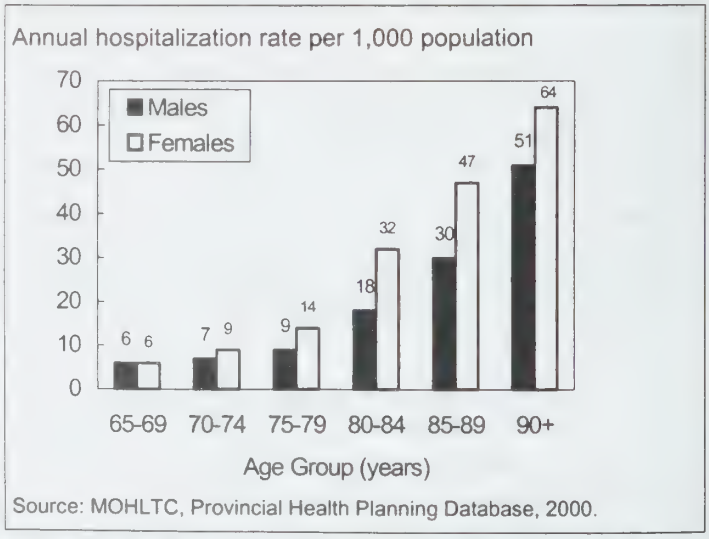
Prescription & Over-the-Counter Drug Use

Taking multiple drugs, whether prescription or over-the-counter (including herbal remedies), puts people, especially older adults, at risk for harmful drug interaction effects and injuries due to falls. In 1996/97, the Ontario Health Survey found that 15% of Hamilton adults ages 65 years and over took five or more drugs during the two days before the survey. Only 20% of older adults took no medications during these two days, with the remaining taking one to four drugs during the two day period.

Falls

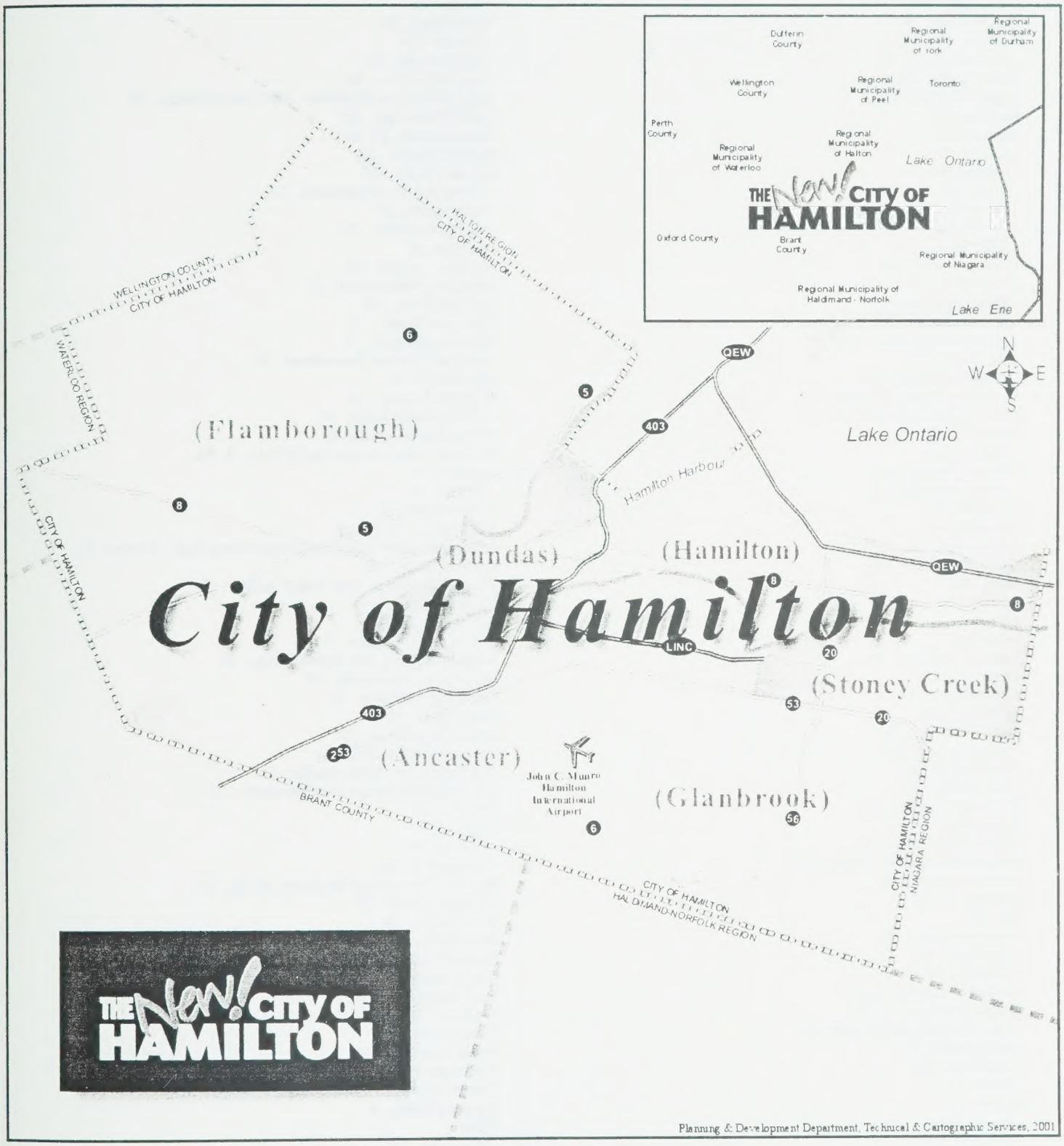
Falls are a leading cause of *preventable* injury and injury hospitalizations among older adults. Falls prevention is most successful when multiple strategies are used, such as, regular medical care, and safe medication and alcohol use. Regular physical activity including strength and balance exercises, keeps muscles and bones strong, reduces bone loss and improves posture and balance. These benefits have been associated with a reduced risk of falls and injury. In 1998/99 (fiscal year) there were 1,017 hospitalizations among Hamilton seniors due to fall-related injuries. Annual hospitalization rates for falls for 1994/95 –1998/99 (fiscal years) increased with age for both genders, but rates were greater for females for comparable age groups (Figure 21). Adults aged 80 years and older, and particularly females aged 90 years and older, were at higher risk. The average annual length of hospital stay due to falls for 1994/95-1998/99 (fiscal years) was 38 days for senior females and 35 days for senior males.

Figure 21. Annual Hospitalization Rate Due to Falls by Sex and Age Group, Hamilton, 1994/95-1998/99 (fiscal years)



Source: MOHLTC, Provincial Health Planning Database, 2000.

MAP OF THE CITY OF HAMILTON



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